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ESSAYS, MONOGRAPHS, AND CASES.

On the preservation of Vaccine Virus, both in the fluid and solid state. By EDWARD H. PARKER, M.D., &c. &c.

What are the best methods of preserving the vaccine virus, is a question of practical interest to every one who is called upon to use it. Pure lymph when it can be had in good condition, is universally preferred; but when it is not possible to obtain it, we are compelled to resort to the crust or scab. Both the lymph and the crust are difficult of preservation, and the purpose of this brief paper is to call attention to some methods which seem to be better adapted to defend them from injurious influences than those usually resorted to. These methods are simple, can be used by every one, and are effectual, so that they seem to unite all advantages. Originality is not claimed for them, though it is believed that they will be new to many members of the Academy.

I. *Of the Lymph.*

This has been preserved in several different ways. The most common is that of smearing points of ivory, glass, platina, or quill with it, and allowing it to dry. This requires only to be moistened, as by the breath, before it is rubbed on the incisions made for its reception. Much care is necessary to preserve points thus prepared from dust and from excessive moisture and warmth. On this ac-

count, as well as from the risk to the lymph of being rubbed off, they cannot be depended on unless they are recent or have been protected with more care than can usually be bestowed upon them by persons occupied with practice. Points thus charged are, however, easily transported, and for immediate use are very convenient.

To keep the lymph in a fluid state, clearly a most desirable thing to accomplish, it has sometimes been placed between slips of plate glass, like microscopic object slides or smaller, and in this way it will remain a day or two without drying. Still it is exposed to atmospheric influences, and is apt to decompose or dry up. In the first case it is useless—in the second it is no better than when dried on points, and is much more inconvenient.

Still another mode is that which has been resorted to by the London vaccine establishment, viz: the use of small tubes with a bulb blown upon one end, somewhat like a thermometer tube and bulb, only smaller. To fill them it is necessary, having first pricked the vesicle that the lymph may ooze out, to heat the bulb, so as to rarefy and expel the air within it. Then by placing the mouth of the tube in the exuded lymph, as the bulb cools the atmospheric pressure will carry the virus up to occupy the place vacated by the air which is no longer rarefied. When all has been drawn up that can be, the open end of the tube is placed in a flame, as of a spirit lamp, and melted so that it is hermetically sealed. To use the lymph it is necessary to break off the end of the tube, heat the bulb, and either catch the fluid as it is forced out upon points, or allow it to drop upon the incisions made to receive it.

It is a disadvantage of this method, that the return of the air in the bulb to its ordinary condition, as the bulb cools, compels the virus to flow rapidly up, so that the least motion of the child or unsteadiness in holding the tube in the virus, is sure to admit air to the exclusion of lymph. Using heat to expel the lymph, is also inconvenient, and by adding to the formality of preparation tends to frighten the child who is to be vaccinated. The exposure of the bulb to be crushed in consequence of its diameter being greater than that of the tube, at the same time that its walls are thinner, is also to be enumerated among the objections to this method, especially when transportation of the lymph is to be taken into consideration.

To this method my attention was called by Dr. C. V. W. Burton, of Lansingburg, New York, who is a correspondent of the London

vaccine establishment, and by whom lymph has been received in this way, and in perfect condition. But the London institution has since abandoned this method in consequence of its inconveniences.

Another method of accomplishing the same thing, the preservation of the lymph in a fluid state, is by means of tubes open at both ends, but with an enlargement somewhat like a bulb in the middle. This is, I believe, a German method. The tubes are to be used in the same way as those previously described, the expansion in the middle being heated instead of the bulb at the end. The ends are then in succession melted, and the lymph is hermetically protected.

For use the ends of the tube are to be broken off, and the lymph can be made to exude from one end by gently blowing into the other, or if but one end is broken off, heat can be applied as in using the English tubes.

But the same thing can be better done by using glass tubes from $\frac{1}{20}$ to $\frac{1}{30}$ of an inch in diameter, and of the same dimensions throughout, that is, without bulb or enlargement. This method is the most convenient in practice, and the most certain to preserve the virus in a desirable condition. It is only necessary to take pieces of tube of the diameter before named, and about two inches in length (or they may be two and a half inches), and having them conveniently at hand the vesicle should be punctured and the lymph allowed to exude. Then holding the arm with one hand, take one of these tubes between the forefinger and thumb of the other, resting the little and ring fingers upon the patient's arm, that the hand may be steadier. Place the end of the tube directly in that portion of the lymph which it is desired to collect, and the fluid will instantly shoot up the tube about an inch. Other tubes can then be taken and filled in the same way, till all the lymph is taken up. It only remains to close them, and this is best done by allowing the virus to run down towards the end at which it entered, while the other is held at a little distance above but over the flame either of an alcohol lamp, which is the best, or if that is not at hand, a candle or gas jet. This expels a portion of the air above the lymph. The end should then be brought into the hottest part of the flame, and at once melted and taken out. As it cools, which takes but a few seconds, the lymph will be drawn from the open end, say half an inch. That in turn must then be placed in the flame and melted instantly, when the process is complete. By taking these precautions the lymph is not in danger of being burned, it being drawn away in turn from

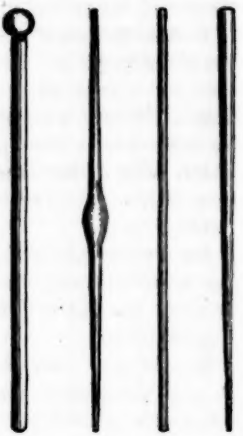
each end, while it is sure to be free from air bubbles, and is entirely protected from atmospheric influences.

a. The English Tube.

b. The German Tube.

c. Tubes of uniform dimension.

d. Dr. Ford's Tubes.



a. *b.* *c.* *d.*

To use lymph thus put up, it is only necessary to break off the ends of the tube and gently blow out the lymph. This can either be put upon points, which is most economical, or it can be allowed to drop directly upon the incisions.

For transportation, these can be packed in a large test tube, or in a strong goose quill, and in the latter way go safely by mail. Care must of course be taken to pack the ends with cotton.

Thus protected from moisture, lymph can be preserved during the hottest weather, by keeping it in a cool place, as a refrigerator, without the necessity of selecting one that is dry.

I desire to say that, after my attention was called to the London method by Dr. Burton, at my request, Dr. E. Lee Jones, then house-physician to the Demilt Dispensary, whose vaccinations have reached a very high number, kindly consented to try it, but finding some of the German tubes, made trial of them also, and gave them the preference. Afterwards, in correspondence with Dr. J. Hutson Ford, city vaccinator at Charleston, S. C., that gentleman suggested to Dr. Jones the last method of closing one end and then the other of a cold tube into which the lymph has been drawn by capillary attraction. Dr. Ford uses tubes which are of a gradually increasing diameter, but these are more difficult to obtain, and are no better than tubes of an uniform diameter. So also can the German tubes

be used without heating, but the liability of the bulb to be broken, makes them inferior to the simple tube.

II. *Of the Crust.*

Although opinions differ so much with regard to the use of the crust formed by the drying of the vesicle, some thinking it is quite as good as the lymph, others that it is never safe to use it, it remains true that it is often employed. For transportation, it is much the most convenient, and on this account only must often be depended upon. It is not quite so certain to take as the lymph, and the vesicle produced by it does not mature so soon by twenty-four hours as that caused by the lymph, but otherwise it seems equal to it. The crust when taken, should be carefully wiped upon its under surface to remove any pus that may adhere to it, it should then be scraped upon its edges and upper surface so as to remove any dirt or impurities that may have become attached to it, and from which alone bad results may arise in use.

Of the preservation of the crusts but little need be said, except that they should be kept cool, clean, and dry. Wax and tinfoil are commonly used to wrap them in, and they answer the purpose quite well. But the method of the London vaccine establishment is preferable. It simply consists in enclosing the crust in a pocket or envelope of gold-beater's skin. This is made from a piece of that membrane about an inch and a quarter long and half as wide, which is doubled upon itself and the sides moistened by the lips are turned over upon themselves, when they at once adhere. The end remains open till the envelope is to be used, when it is only necessary after putting the crust into it to moisten the edges and fold them over. This envelop is air tight, but sufficiently transparent to allow of complete inspection of the condition and quality of its contents. If other precautions are thought desirable, the envelope with its contents can be enclosed in wax or tinfoil, or put into close stopped vials, or all combined—or defended in any other way that the fancy or judgment may suggest. The gold-beater's skin does not interfere with any of them, but rather adds to their efficacy.

Note.—Since reading this paper, Dr. J. W. Richards, of this city, has informed me that he has been in the habit for several years of protecting the crusts, by simply wrapping them in a piece of paper, and then surrounding the whole with three or four thicknesses of machine spread adhesive plaster, which being pressed together without heat is impervious to the air and moisture. He has used successfully crusts which have been thus enclosed for one year.

I also find in an English journal * since received, the following concerning the advantages of the tubes for preserving lymph in warm climates. The Vaccine Board report to the Home Secretary of State (England) that "the transmission of lymph to Ceylon in hermetically sealed glass tubes has proved very successful, and with the lymph so sent 23,353 persons have been vaccinated." It would seem that the vaccine establishment has not abandoned the principle, if it has the precise form of the tubes.

Notes of the Surgical Clinic of Prof. D. S. CONANT, *at the University of Vermont: Session of* 1857. *Reported by* M. E. THRASHER, *M.D., Prosector.*

I propose to give a condensed history of the operations which were performed by Prof. Conant before the Medical Class of the University, during the Spring course, with such observations and clinical remarks as seem appropriate. It will include no new or wonderful operation,—simply such as every surgeon is liable to meet in his every-day practice; yet many of them are of much practical importance, and I trust will not be wholly devoid of interest to the readers of the MONTHLY.

1. *Lacerated and incised wound of the Hand.*—This patient, a lad fifteen years of age, was brought to the clinic, having received an injury in the right hand by falling upon a circular saw. The wound across the hand was oblique: commencing on the ulnar side, the metacarpal bone of the little finger was severed near its middle, and the same bone of the ring finger near its lower extremity. The first phalanx of the middle and the second phalanx of the index finger were also sawn through. The wound was extensively lacerated and extended entirely through the textures of the hand, with the exception of some portions of integument on the outer surface. Hæmorrhage was but slight, though all the vessels of this region were divided. The two fingers of which the metacarpal bone were severed, together with that portion of the hand below the wound, were removed; also the remaining portion of the metacarpal bone of the little finger, which was necessary in order to allow the integument of the two surfaces of the hand to be brought in apposition. The wound was then closed and sutures applied. The nearly severed portions of the middle and index fingers were properly adjusted

* London Medical Circular, May 27—p. 250.

and retained by adhesive straps, it being thought expedient to make an effort to save, if possible, those very important and useful appendages of the hand, though there was little hope of success. Patient was ordered to be kept quiet; diet unstimulating and easily digestible; cold to be applied to the hand, with the exception of the two fingers, which were to be kept warm by the application of tepid water.

In the course of twenty-four hours gangrene of the middle finger was evident, and at the expiration of forty-eight hours it was removed by amputation just above the head of the metacarpal bone. An additional portion of the metacarpal bone of the ring finger was also removed at this time. The index finger was doing well, union having already commenced between the fragments. From this time the case improved rapidly, and at the end of four weeks union and cicatrization were complete, and quite a useful hand was left the patient, though it presented a striking appearance.

2. *Strabismus.*—An unusually large number of cases of strabismus were presented. The operation for simple strabismus was five times performed, and in every instance with good success. The operation was not followed by fungus growth from the divided muscle, neither was bulging of the eye perceptible in any case.

Prof. Conant remarked in reference to this operation, that several modes of operating had been recommended. Some surgeons had preferred the sub-conjunctival incision, which was performed by inserting a narrow cutting instrument beneath the conjunctiva at a proper distance from the cornea, and then dividing the offending muscle. This mode of proceeding he would not recommend, since the operator could not be certain that all the fibres of the muscle had been divided, and however skilfully the operation was done, there was danger of wounding the sclerotica.

The second method was by incision. The conjunctiva was seized with the mouse-tooth forceps, which the operator held in his left hand, while with the curved scissors the incision was made in the conjunctiva equi-distant from the cornea and caruncula lachrymalis. The sub-conjunctival fascia was then incised, the blunt hook inserted, and the muscle elevated and divided with the scissors. A portion of the muscle could be removed or not as thought advisable.

The incision in the conjunctiva had been made by different surgeons, both vertical and transverse (most operators preferring the former). He had had experience in both methods, and preferred the transverse incision, that is, parallel with the fissure of the lids. He

urged in favor of this: 1st. That the organ was not as liable to become prominent or bulging in the region of the incision. 2d. Fungus growth from the divided muscle or fascia was less frequent. 3d. The cicatrix was less prominent and noticeable.

In the course of his remarks on this subject, Prof. Conant said, in regard to the result of the operation, that a thorough examination of the patient should always be made and the history obtained, as far as possible, in order to give the surgeon a complete understanding of his case.

Many times this deformity occurred in children simply from local irritation, as intestinal worms, teething, &c. Again, in the adult it might result from paralysis of some of the muscles of the organ, in which case it might be permanent.

These were conditions in which an operation would be likely to prove injurious rather than beneficial. But in cases of confirmed strabismus, existing from birth or appearing afterwards, where vision was impaired and the deformity was constant or nearly so, if the patient had free motion of the affected eye when the other was closed, he deemed an operation justifiable, and success probable if not certain, if the operation was carefully and thoroughly performed.

In cases where only one muscle was involved, as was positively shown by the position of the eye, if the operator was certain that the division of the muscle was complete, although the deformity was not wholly relieved at first, he would prefer to postpone further interference for awhile, hoping that, after the excitement and irritation consequent to the operation had subsided, the organ would assume its proper position. If it did *not* completely, a second operation might not be necessary, if the patient was directed to keep the sound eye covered and thus accustom the affected organ to the natural position. He would much rather do too little than too much. An opportunity was offered for illustrating the importance of these last remarks in one of the cases just mentioned. The patient was a delicate young lady. The deformity was readily noticed immediately after the operation, but upon the following day the eyes were in perfect unison. In another of these cases the deformity was not constant, but varied according to the condition of the patient. When fatigued or excited the deformity was increased. This fact was of course taken into consideration in performing the operation and a good result obtained.

Two other cases of strabismus were operated upon. One for double strabismus, and one in which two muscles were involved. In

the latter case the deformity was upwards and inwards, both the internal and superior recti muscles being at fault. Here the incision in the conjunctiva was made higher up than usual for the simple variety. The blunt hook was passed in each direction and the internal rectus was entirely divided and the greater portion of the superior rectus. The double strabismus was internal, and the operations were done as previously mentioned, one day being allowed to intervene.

In this connection I would mention the case of a gentleman who attended the clinic, affected with internal strabismus of the right eye, which had existed from childhood. Some points in the clinical history of this patient are very instructive and interesting. Several years ago while in California, he was accidentally struck by a buck shot, which entered the cranium through the superciliary ridge, directly over the left eye. This was followed by almost complete paralysis of motion in the right side of the body, and entire loss of vision in the right eye, and partial loss of vision in the left. In the course of a few months sight was completely restored to the left eye. Soon after this, the external portion of the retina of the right eye became sensitive to light, and gradually the power of vision was extended from this point to the entire retina. During this time the hemiplegia was gradually passing away, commencing with the lower extremity. At present he had almost entirely recovered.

Prof. Conant remarked in reference to this case, that he thought the seat of the trouble might be located by the phenomena produced. The shot, he believed, entered and passed through a portion of the brain—probably through the corpus striatum—and was now lodged in the bone at the base of the skull. The paralysis and loss of vision were produced by the lesion in the substance of the brain, caused by the passage of the shot through it. Cases are on record where a much more extensive injury of the brain than could have occurred in this instance, has been followed by complete recovery. The most singular feature of this case is, that the foreign body still remains innocuous somewhere within the cranium.

3. *Pterygium, with encysted tumor on the cornea.*—In this case the pterygium affected the inner portion of both eyes, extending nearly to the centre of the pupil. On the left eye, in addition to the vascular growth, was a cyst, about the size of a small pea, situated upon the cornea near its internal border. The cyst was composed of a very thin, transparent membrane, and contained an aqueous fluid.

It was thought possible that this tumor might have been formed

by the escape of a portion of the aqueous humor, through an aperture in the cornea; and that there might still be communication between it and the anterior chamber of the eye. In order to decide this point, a small needle was introduced, a few lines from the tumor, beneath the vascular growth, and being carried forward beneath it, was made to puncture the cyst, and the contained fluid was allowed to escape. Pressure was now made upon the globe of the eye, but the cyst was not refilled, which was sufficient proof that no connection existed between it and the aqueous humor. The pterygium was then dissected from each organ and completely removed, together with the cyst from the left cornea. The cold water dressing was made use of for a short time, and after a few days the conjunctiva assumed its normal appearance.

4. *Ptosis.*—This patient was a girl fourteen years of age, suffering from ptosis of the left eye. The falling of the lid was not complete, yet vision was almost entirely obstructed. The operation consisted in the removal of an elliptical portion of integument from the lid. A fold of integument as large as was deemed necessary, was grasped with the forceps and elevated by an assistant, while four needles, threaded with sutures, were passed through about a line below the instrument. The tissue inclosed in the grasp of the forceps was then excised with the scissors. The sutures being already inserted, nothing remained to be done to complete the operation but to bring them together. Vision was completely restored in this case, and the appearance of the eye greatly improved.

5. *Anchylosis of the Elbow Joint.*— This patient, a man some twenty-five years of age, was exhibited to show the result of an operation performed by Prof. Conant during the previous session. The anchylosis was of several years standing, and was the result of an injury to the joint, by which the bones were dislocated and the olecranon process fractured. The patient was put under the influence of ether, and the arm, which was in the extended position, was forcibly flexed. The olecranon again gave way at the point where it was previously fractured, but notwithstanding this, he now presented himself with considerable motion of the joint, and on the whole, a very useful limb, compared with what it was before the operation. He was now able to carry the hand to his head, and do almost any kind of farm-work, while before the arm was perfectly useless.

6. *Deformity and uselessness of the lower extremity from permanent muscular shortening.*—This was one of those cases, which, when successful, give so much satisfaction to both surgeon and patient,—

where a great deformity can be removed and usefulness restored to a worthless and troublesome member, without a severe or bloody operation.

This man was twenty-four years of age. The limb was sadly distorted, and had been so for several years. The immediate cause seemed to be a permanent contraction of the gastrocnemius and soleus muscles, together with the flexors of the leg upon the thigh. The limb was entirely useless, the knee having become spontaneously dislocated outwards, by forcible contraction of the biceps flexor cruris muscle, and flexed so as to form nearly a right angle, while the toes were everted and drawn down almost in a line with the tibia, forming talipes equinus. The limb was of course considerably emaciated from inactivity. The tendo achillis, biceps, and vastus externus were divided by subcutaneous section with the tenotome. The offending muscles upon the inner side of the thigh were not divided at this operation, thinking they might aid in bringing the head of the tibia into its normal position. No inflammation followed the section of the tendons.

This patient was sent to the clinic by Prof. Smith of the University, who has paid considerable attention to deformities of this nature and has gained an enviable reputation by his skill in relieving them. He attended to the after treatment, which is a very important adjuvant to success in these cases.

Quite a novel appliance for a splint was made use of in this case, which for its efficiency, convenience, and cheapness, (especially for surgeons in country practice, where splints are not so speedily made to order as in the larger towns,) deserves to be noticed.

It was composed of the common hoop iron of a convenient width, properly wound and padded. This could be changed in shape by bending, as often as the condition of the limb required, without the lumbering appendage of hinge and screw. It offers no impediment to bandaging the limb to which it is applied, and can be changed from one side of the limb to the other at pleasure, thus avoiding the effects of too long continued pressure upon any part. This, together with its lightness, are important points to be secured where a splint is to be made use of for so long a time as becomes necessary in these cases.

This limb improved rapidly. At the expiration of three weeks the dislocation at the knee was reduced, and the semi-membranosus, semi-tendinosus, and gracilis, were divided by Prof. Smith. After this the leg was capable of being extended, and when the patient

was standing the affected foot could be rested firmly upon the floor. The retentive apparatus was still continued, and exercise of the limb as much as possible enjoined. At present the case is progressing favorably and promises a good result.

7. *Compound fracture of the arm and forearm, with extensive laceration of the soft parts.*—This was a boy sixteen years of age. On account of the severity of the injury he was attended at his home.

At the time the accident occurred he was at work in a steam-mill, and in adjusting a belt was caught in the machinery and drawn over a shaft some ten feet above. The humerus was fractured in the middle third, and both extremities of the bone were protruding through the laceration in the tissues of the arm, which extended completely through the triceps, brachialis anticus, and a portion of the biceps muscle, leaving entire only a narrow band of integument, a portion of the biceps muscle, and what was most fortunate, the important vessels and nerves of the arm. Both the ulna and radius were fractured in the forearm, and projected through the soft parts, which were divided on the external surface of the arm, including all the supinators and extensors of the hand.

The dressing in this case was light and simple. The extremities of the bones were placed in apposition, and the mangled tissues brought together by sutures as accurately as possible. The fractured portions were then surrounded by light splints secured by bandages, and the limb allowed to rest upon a pillow in a comfortable and natural position. Cold water was applied locally, and anodynes prescribed, to allay the pain, which was at times severe. A high grade of inflammation ensued, followed by extensive suppuration and discharge of pus from the wounds. Tonics and stimulants were now resorted to, to support the system. The dressings were renewed twice or thrice daily, and the pus allowed to discharge as soon as formed. Although the injured arm was considerably swollen, pulsation at this wrist was nearly as full and strong as at the other.

The question of amputation was agitated, but it was decided to be advisable to make farther trial of the present course of treatment, relying upon the vis medicatrix naturæ, seconded by a good constitution and a condition of system above par, even at this time. This case is now doing as well as could be expected, but has not progressed suffi ciently to warrant a prognosis.

8. *Tumors.*—Five patients with tumors were presented and operated upon before the class. Three of these were small and of the sebaceous variety, from the forehead, angle of the jaw, and scapular

region. Two cancerous growths from the region of the sub-maxillary triangle and one fatty tumor from the posterior scapular region.

One of the malignant tumors, about the size of an orange, was situated beneath the body of the jaw, a little to the right of the symphysis menti; the other, somewhat less in size, was lying directly upon the external carotid artery, and was perforated by the facial artery near its internal border. This patient had had two epithelial cancers removed from the lip, at some time previous, by means of caustics, leaving a very unsightly deformity.

The larger tumor was first removed, together with an eliptical portion of integument over its apex. It was found resting upon, but not involving, the levator muscles of the larynx. The other growth was removed by slightly enlarging the first incision. The intervening tissue was then divided with the handle of the scalpel, the tumor seized with the double hook, brought forward and carefully separated from its attachments about the carotid artery. The facial artery was necessarily torn across. Hæmorrhage was quite severe, but soon controlled after ligation of the divided vessel. The wound was then thoroughly searched, and several masses of diseased tissue removed. Union by first intention was obtained throughout the greater part of the wound, and in the course of ten or twelve days union was complete.

It was remarked in regard to this case, that a radical cure of the disease by this operation was more than could be anticipated; but the impediment which the tumors already offered to deglutition, together with the hope of temporary relief and delay of the fatal termination, were sufficient to justify their removal. At present there is no indication of a reappearance of the disease. The fatty tumor before mentioned was of large size. The operation was uncomplicated, and recovery rapid, union by first intention being secured.

9. *Deformity from badly adjusted fracture.*—Here was a sad condition of the lower extremity of a little boy, four years of age, resulting from a fracture of both bones of the leg. The accident occurred when the patient was six months old, and was not properly treated at the time. The fracture was at the junction of the middle and lower third of the bones. The tendo-achillis had become permanently shortened, and the leg at this point formed nearly a right angle. Bony union between the fragments was not perfect, and very slight motion was perceptible. When the weight of the body was borne upon this limb, the ligaments of the ankle joint had become so much relaxed that the angle at the point of fracture rested directly

upon the great toe. In this way the child was enabled to walk, but the limb was shortened to the extent of four or five inches.

The operation was performed by Dr. Conant, by resecting a triangular or V-shaped portion from the anterior surface of both bones just at the angle. This was allowed to include about two-thirds the thickness of the bones, the remaining third being left entire. The tendo-achillis was then divided subcutaneously, and the limb restored to its normal position by forcibly bending or partially fracturing the remaining portion of the bones at the point of excision. The attachments which remained after this process, were of course sufficient to retain the fragments in apposition. The limb was then dressed in the extended position, and recovery was hoped with but slight shortening. This case is now progressing favorably, and a good result can be confidently predicted.

A great variety of minor operations were performed,—as amputation of the uvula with the forceps and scissors, dilatation of the puncta lachrymalia, removal of the toe nail, together with the matrix, for radical cure of onyxis, amputation of the tonsils, &c.

The operation for amputation of the tonsils was done by placing the patient in a low chair, while the operator stood upon a stool or chair behind him, the head of the patient resting firmly against his knees. The tonsil was then seized with the double hook, and excised by means of the long probe-pointed bistoury.

Several other interesting cases were brought before the class, in Doctor Conant's absence, and attended to by Professors Thayer and Carpenter.

135 AVENUE B, NEW YORK.

Cod-liver Oil (Oleum Morrhuæ). Some Observations on its Preparation and Therapeutic Uses. By E. H. DAVIS, Professor of Materia Medica in the New York Medical College.

It is hardly necessary to offer an apology for again bringing to the notice of the profession the subject of Cod-liver Oil. Perhaps no article of the Materia Medica has of late years gained so great a popularity, or is more frequently relied on, in the treatment of certain diseases.

Yet the great diversity of results from the use of this article have caused some to lose faith in the remedy. It has long been a favorite with me, having used it in private practice with a reasonable degree

of success. But, some years since, I took charge of a college clinique, composed of the poorer classes, with broken down constitutions, of scrofulous, cachectic, and rheumatic tendencies, presenting all that variety of cases generally benefited by this remedy. Here I was disappointed in my expectations of the usual good result; so that, at length, I began to suspect something wrong in the quality of the article, especially as I knew their pecuniary circumstances compelled the patients to purchase it from the cheaper class of shops. To test the matter, I induced many of them to bring me specimens of the Oil they were using. These were subjected to the various tests recommended for determining its quality. Every variety was thus discovered, from the pale light brown to the darkest fish oil. Many of the specimens were composed of a simple fatty oil devoid of every physical or chemical characteristic of the genuine Cod-liver Oil.

This afforded, as I thought, a sufficient explanation of the frequent failures of the remedy. But mark my surprise, during a recent investigation, to find so much difference in specimens well authenticated as genuine Cod-liver Oil.

During the past year, the subject has been presented in various ways before the Academy of Medicine, and was referred, together with many specimens (obtained from the first druggists of the city), to the Section of Materia Medica. Their investigations proved a great variety even in the undoubted product of the Cod-liver—favoring the idea that the quality might depend much on the season of the year when the fish was obtained, and the locality, as well as the various modes of preparation.

To obtain more information, I addressed letters to several gentlemen familiar with the fisheries, and process of manufacture. I here subjoin extracts from a communication from Dr. H. W. Caldwell, which seems to furnish the facts most in detail.

"The various Oils mentioned, are obtained from the livers of the Cod found in the waters surrounding the island of Newfoundland and the coast of Labrador.

"The fisheries are carried on from the Spring to the Fall, in the different localities, according to the season and the circumstances, at a distance from the shore of from three to fifty miles, and at depths varying from fifteen to ninety fathoms.

"The quality of the Oil depends much on the freshness of the fish when the liver is taken from it, and still more on the method adopted for the extraction and purification of the Oil.

"The purest and best Oil is obtained from the livers of fish taken

at a distance of from three to eight miles from the shore, and in the immediate neighborhood of the port of St. Johns, N. F., during the month of June, when the codfish are unusually fat, from feeding on their favorite food, the 'cape-lin,' a small fish not more than three or four inches long, with which the waters of that locality abound at that period.

"The fisheries now under consideration are carried on by small boats of only two or three tons, which sometimes run in with a 'haul' three or four times a day; the fish in that case (being still alive), are killed by blows on the head, and are taken to the factory. The livers are then taken out, washed very clean in fresh water, and thrown into large cauldrons. These cauldrons are double, having a space between filled with water, so that the fire does not come in contact with the surface of the inside one, containing the livers. Heat is then applied, and the water between the cauldrons kept at a *certain point* (a secret), for several hours, or until the Oil is nearly all extracted, and the residue, or blubber, begins to throw off a peculiar odor, when the process is stopped and the Oil is drawn off into a *cooler*, and thence passed through a purifying or refining operation, which is accomplished by running it through large bags filled with pulverized charcoal, which, also, to a great extent, removes the coloring matter and renders it clear, *light colored* and comparatively tasteless. The Oil is then racked off into air-tight barrels of about thirty gallons each, and shipped to all parts of the world.

"The common or impure Cod-liver Oil is of a dark brown color, and has a very disagreeable odor. It is also obtained from the liver of the Cod, but under different circumstances, and by a very different process. The fish in this instance being taken by much larger boats from fishing grounds at a greater distance from the shore. These boats vary from five to fifty tons, and are out for many days at a time, running in, when loaded, to the 'curing sheds' on the shore at different points, where the fish are split and salted, and the livers are thrown into large barrels having a fine grating near the bottom. These barrels are placed on a stand, and the livers not being fresh are soft, and melt easily. When exposed to the heat of the atmosphere for a few days, the oil running from them, through the false bottom into the receptacle placed to receive it.

"This is a *second quality* used to mix with, or adulterate the best. A weight is then placed on the residue, and a further amount of coarse, or impure oil, is expressed. This is the common Cod-oil, or Fish-oil, of commerce, and is used principally for tanning and other

manufacturing purposes; and the blubber, in either case, is used for manure or the manufacture of oil-cake."

From all the facts we have been able to collect on the subject, the following conclusions may be deduced:

First (other things being equal). That the best and richest oil is obtained during the month of June.

Secondly, The fresher the fish from which the livers are obtained, the more pure is the oil, and the greater is the freedom from rancidity.

Thirdly, The artificial process of extracting the oil has many advantages over the former, and very slow mode of draining it out assisted by the heat of the atmosphere, as the latter involves the partial decomposition of the liver, thereby imparting an unpleasant odor and taste to the oil.

There has been quite a diversity of opinion in the profession with regard to the comparative value of the light brown, and the pale yellow oils. In Germany, and on the Continent generally, they prefer the former, whilst in England and America the latter finds most favor.

By analysis, De Jongh found the pale oil to contain scarcely any volatile fatty acid, and a smaller quantity of iodine, phosphate of chalk, and elements of the bile, than the light brown oil.

These biliary elements may be of importance in some cases, in rendering the oil more soluble and easy of assimilation. In fact, I have often found in cases where there was a lack of biliary and pancreatic secretion, that the addition of potash, or the carbonate of soda, makes a saponaceous compound more easily absorbed and appropriated by the system.

Cod-liver Oil is a very good vehicle for the administration of the iodide of iron. In scrofulous cases of children, I add two grains of the iodide of iron, or from a half-drachm to a drachm of the syrup, to the ounce of oil.

In concluding, it may be well to mention that some of our apothecaries are quite successful in preparing the oil in the form of a jelly, which renders it comparatively inodorous and tasteless, and of course less revolting to delicate patients.

On the Operation for Division of the Second Branch of the Fifth Pair of Nerves. By D. S. CONANT, M.D., Professor of Surgery in the University of Vermont.

The operation for the relief of that terrible malady commonly known as Tic Douleureux, was formerly subcutaneous division of the nerve at its point of exit from the infra-orbital foramen. This operation, however, has seldom been successful in effecting a permanent cure. But, more recently, Professor J. M. Carnochan, of the New York Medical College, proposed an operation, which he has successfully performed in several instances, in the following manner: The incisions are made so as to lay bare the superior maxillary bone beneath the orbit, when, with a trephine, a disc of bone is removed, opening into the antrum Hymorianum, and through this opening the floor of the infra-orbital canal is removed. The nerve is then divided far back, and entirely removed, to its point of exit upon the face. This, as will be readily seen, is a very formidable operation, and no one would ever attempt it unless he first made himself perfectly familiar with the anatomy of the parts.

One object of this paper is, to point out what the writer considers objections to this mode of operating; but more particularly to suggest a different mode of operative procedure, which simplifies the operation, and which is entirely without the objections, while it can not fail to be equally efficacious. The first objection to the former operation is the difficulty of performing it; while in case of failure, the deformity is as great as though the operation had been successful. I have seen the operation attempted, without being accomplished, after keeping the patient etherized from one to two hours, and this by an excellent anatomist. The second objection is, the difficulty of getting perfect union of the soft parts over the opening into the antrum, and thus preventing a fistulous canal from rendering the deformity even greater than it otherwise would be. The third objection is, the accumulation of more or less pus in the antrum, requiring that a new opening shall be made at its very bottom, to favor its discharge. These, I think, are, beyond all dispute, valid objections to the operation above described, though by no means of sufficient moment to contra-indicate its being performed in severe cases; for the patient is relieved from pain, which, in such cases, is almost insufferable.

After reviewing these objections to the above operation, I was led to examine the parts directly implicated, more particularly, and determined upon the following operation, to accomplish the same

object. I have performed it many times upon the cadaver during the last Spring, both before my private class in the dissecting room, and before the class in the medical department of the University of Vermont, and the operation seems to commend itself to every thinking mind. It consists in making an incision through the soft parts at the lower border of the bony orbit and parallel to it, one inch and a half long, and then dissecting back upon the floor of the orbit as far as is necessary, even to the foramen rotundum if desired; at the same time an assistant may hold up the soft parts very carefully with a small, thin retractor. Far back the nerve will be found lying in a groove; a small hook is now passed under the nerve, and it is easily divided with a pair of fine bent scissors. From this point the thin plate of bone covering the nerve can be easily removed with the point of a strong bistoury, nearly back to the orbital border of the maxilla, when the metacarpal saw, or a chisel, may be used, unless the nerve can be withdrawn without removing the thicker portion of the bony covering. The parts are now brought together by the interrupted suture. Thus it will be seen that the nerve can be removed as perfectly as from below, and even farther back if it becomes necessary. Here, then, we have a very simple operation, which can be performed in less than half the time required for the former, with no opportunity for the accumulation of pus, and is followed by almost no deformity; as the incision is so made that the cicatrix will be covered by the fold of integument upon the lower lid, especially when the eye is opened.

133 Fourth Avenue.

Amylene, a condensed history of its discovery as an anæsthetic agent, with an account of the Experiments in the hospitals of London, Paris, Strasbourg, and Brussels. Translated and abridged for the Monthly *from the Revue de Thérapeutique.*

Anæsthesia is a conquest which will endure notwithstanding the accidents which now and then occur to surgéons. But yesterday this method counted two agents, sulphuric ether, now seldom used, and chloroform, almost universally adopted. A third is now being tried.

On account of the deaths which have occurred during the use of inhalation in the hospitals of London, and which seem to have been more numerous there than elsewhere, the English physicians have eagerly sought for a substance less dangerous than chloroform, and

one of them, Dr. Snow, has arrived at a result in the discovery of the anæsthetic properties of amylene which merits being recorded.

Dr. Snow after many experiments upon animals, after having respired the vapors of amylene himself decided to employ it upon man. The 10th November, 1856, he applied it for the extraction of teeth in two young persons fourteen years of age. In these cases he was not perfectly successful, but from what he had observed he felt authorized in continuing his experiments, and so on the 4th of December he used it upon four new patients with complete success. The 13th of December it was again employed in some more severe cases; in one, operated upon by Mr. Fergusson for fungus of the testicle, and in another, operated upon by Mr. Bowman for the removal of tumors in the region of the groin, and in two cases of section of tendons. The 27th December, M. Snow used it in the case of a young girl three years and a half old. She breathed the vapors for two minutes only. She did not give the least manifestation of pain, and awoke at the very moment that the operator finished the section of the tendons of the muscles of the foot.

January 3d, Mr. Fergusson operated upon three patients subjected to the vapors of amylene. In one a rhinoplastic operation was to be completed. The inspiration continued six minutes. It was observed that the amylene produced less rigidity and less convulsions than chloroform administered a few days before.

January 7th, Mr. Henry Lee employed amylene upon a young girl whose thigh he was to amputate. The anæsthesia was maintained during the whole of the operation,—three ounces of amylene were employed. The young patient felt no pain and was very well afterwards. The same day Mr. Fergusson operated upon three patients under the anæsthetic effect of amylene. In all the anæsthesia was obtained in two or three minutes. In two the intelligence was not completely abolished.

Mr. Tyler Smith, surgeon to St. Mary's Hospital, has employed amylene with success in accouchments. Upon the approach of each pain, he caused 30, 40, 50 drops of amylene poured upon a compress folded several times, to be inhaled. These inhalations constantly and rapidly determined a state of insensibility to the pain, the uterine contractions lost nothing in force or frequency. The return of sensibility was almost instantaneous, from the moment that the pain ceased, and the compress was removed. At the time of the birth of the infant the insensibility was as complete as if chloroform had been used. The placenta was detached and expelled

with rapidity, and the uterus contracted well afterwards; the infant was healthy and vigorous.

Mr. Tyler Smith, as well as the other surgeons already mentioned, accord to amylene, compared with chloroform, the advantage of a prompt action *probably* without danger, and what is not less important, the rapid disappearance of the insensibility as soon as the inhalations are suspended. The *only* disadvantages are, the disagreeable odor of this substance, and the necessity of employing a great quantity in order to produce sufficient anæsthetic effects.

Up to the close of January, sixty-nine operations had been performed in England under the action of amylene.

In Paris amylene was first employed in the early part of February, at Hospital St. Antoine, in the wards under the charge of M. Aran, upon patients who had come to have some teeth extracted. Three young women were subjected to the vapors of amylene. The duration of the inhalation was twenty minutes for each of them without producing complete insensibility. The instrument M. Debout invented for chloroform was used, which did not permit the vapor of amylene to pass off in sufficient quantity in a given time. This and the limited quantity of amylene used was supposed to be the cause of the failure.

At a second sitting, the apparatus of M. Charriere for chloroform was used, and a larger quantity of amylene was secured. According to Mr. Snow, the patient should respire twenty grains of amylene a minute, which produces insensibility in three minutes, and sometimes less, which was the result in this case. From ʒi to ʒiss of amylene was poured into Charriere's apparatus, and in less than three minutes the patient, a young female with a large decayed molar tooth, was fully asleep. Not being ready for the extraction of the tooth, the patient was allowed to awake, which she did in less than a minute,—her face was gay and laughing, she thought she had just returned from a walk. Everything prepared, about a drachm of the amylene was again poured into the apparatus, and the anæsthesia was again as prompt as before, the third minute had hardly elapsed when the mouth of the patient was opened without resistance and the tooth extracted without the patient manifesting the least sign of pain.

At the same time M. Geraldes, Surgeon to the Foundling Hospital, made some experiments. He had operated at the time of his report (March 4th) upon twenty-five patients, children from three months to ten years old. In all, with a single exception, the anæs-

thesia was produced in a very short space of time, the minimum of which was one minute, and the maximum three. We cite two observations :

A little patient about six years old was submitted to the action of amylene, in order to examine more easily its eyes. The child breathed the vapors with evident repugnance, it showed no signs of suffocation, it had not that abundant salivation which is sometimes produced by chloroform, but a sudden and very marked weeping was produced, as when vapors of ammonia are respired. This infant reacted very slightly however, against the vapors of amylene ; in a few moments, hardly a minute, it remained immovable, insensibility was obtained. The inspirations were suspended. From ʒi to ʒiss of amylene was employed. The infant awoke with the same rapidity, it did not complain, and willingly accepted food.

The second observation is the exception mentioned above. The patient was a girl four years old. The apparatus for inhalation fitted badly to the face, so that compresses were used. The child at first pushed away the hand of the operator, saying that it smelt badly. Soon, however, she became immovable, the weeping was as marked as in the case just cited. At the end of about two minutes she showed a rigidity and contraction of the limbs which is conntrary to the assertion of Dr. Snow.

Soon, however, relaxation commenced, and in three minutes anæsthesia was obtained. Still, it was easy to see that the sleep did not resemble that produced by chloroform. It was evidently less profound ; the child opened its eyes, made a few movements, and spoke as though dreaming, yet without showing any pain while the operation was going on. The pulse and respiration was as in the normal state. Amylene being very volatile the whole of it was soon consumed, that is to say ʒv. in about eight minutes, before the operation was terminated. Recourse was had to chloroform, and it was soon easy to judge how much more active and rapid in action this substance is. In a few seconds the child was completely comatose, and appeared much more profoundly asleep than before. This sleep was prolonged several minutes after the operation was terminated, while the child woke up the minute she ceased to breathe the vapors of amylene. The operation continued twelve minutes. With this exception M. Giraldes observes that all the children respired the amylene without effort, without much resistance ; in all the respiration was calm as normally ; the anæsthesia was obtained without convulsion, without muscular contractions, without rigidity, without being accom-

panied or followed by nausea or vomiting, although the amylene was given soon after eating. In all the awakening was rapid, complete; they preserved their gaiety, were not incommoded, innervated, irritated, or disagreeable during the rest of the day.

As soon as the anæsthesia is complete M. Giraldes suspends the inhalations. The explorations and the operations requiring but little time, he has not thought proper to prolong the inhalations too long. He gives no opinion upon the probable duration of anæsthesia, yet he believes that amylenic anæsthesia can be long enough for performing the great operations of surgery.

M. Giraldes adds, in terminating, that the vapors of aymlene, even when they have a marked odor, are respired without effort, without producing any efforts of cough, any convulsive movements of the larynx, nor those contractions of the jaws, those cephalic congestions which are sometimes observed after the inhalation of chloroform.

Experiments upon children and in the surgical clinique of M. Rigaud in the hospitals of Strasbourg, have led to the same results as those of M. Giraldes. In some observations of M. Rigaud, as well as in those of M. Giraldes, it is shown that the exhibition of amylene without an apparatus leads to a tardiness in the result.

Two cases of amylenation have been tried in Strasbourg in the obstetrical clinque of Prof. Stoltz.

A woman twenty-six years old entered the clinique in labor. After a few hours, the neck being effaced, the orifice dilated, and the head passing the superior straight, she was submitted to the action of amylene. It was commenced at the moment when the head was engaged in the brim of the pelvis. Some amylene was poured into a bag closed with a compress and covered over exteriorly with oiled cloth. The woman gave a few cries and became stiff. After five minutes of inhalation a commencement of anæsthesia was observed. A contraction of the womb then took place, and the woman made a few complaints, but much less loud than is usual. At half-past one new application of amylene; in five minutes the woman lost consciousness, a contraction followed and excited a few moanings. At two o'clock the head was engaged during a third inhalation which also produced a beginning of loss of consciousness; the woman uttered a cry at the moment that the labor was finished.

Interrogated as to her sensations, she said she had experienced vertigo, ringings in the ears, a burning feeling in the pharynx. She recalled all that passed, but had felt no pain. The child is living and healthy. The uterine contractions were not affected by the amylene.

The second case was one of premature delivery. The amylene was given to lessen the pain of the last efforts of labor. No contraction of the uterus took place during the whole duration of amylenation; friction over that organ induced no expulsive effort; the womb hardened one moment to relax the next. The beatings of the fœtal heart diminished to sixty pulsations. M. Stoltz decided to terminate the labor by the application of forceps. The woman did not feel the introduction of the instrument, nor the tractions which were necessary. During amylenation she had vertigo, and experienced a dryness of the mouth. The infant was living, but feeble, half asphyxiated, not at full term.

M. Stoltz thinks that the amylene had probably nothing to do with the slowness of the uterine contractions, nor with the asphyxia of the infant. Other facts will relieve the doubts upon that point.

M. Tourdes resumes the results of his observations and experiments upon children as follows:

Children receive amylene without any repugnance. The odor of this substance neither irritates nor fatigues the air-passages. No apparatus is necessary for putting to sleep the little patients; a sponge in a cone of oiled-cloth opened at the bottom is sufficient.

The anæsthetic action is rapid; the resistance rarely surpasses one or two minutes.

The insensibility is complete without carrying it so far as to produce muscular resolution. It is much easier not to exceed the effects you wish with amylene than with chloroform, to limit yourself to a transient and superficial anesthesia proportioned to the end to be attained.

With chloroform a greater action is produced than is desired, a profound anæsthesia is determined, a complete resolution of the limbs, whilst with amylene you are almost certain of not obtaining them unless you desire to do so by persistent inhalation.

If you desire a profound anæsthesia accompanied with muscular resolution, this result can be attained by means of amylene, by prolonging sufficiently its action. This is an important difference between this substance and chloroform. From the moment that the patient ceases to respire amylene, the effects of this agent diminish with rapidity. The absolute insolubility, and the excessive volatility of this body result in a rapid elimination and a prompt diminution of the symptoms.

With chloroform, on the contrary, of which the volatility is much less, the effects are more prolonged; sometimes they are increased after the inhalations have ceased.

The recovery is complete and rapid. From an anæsthesia of short duration, not surpassing eight or ten minutes, two or three minutes is all that is necessary for a child to regain all its faculties. A little longer time is required when the sleep has continued longer. The elimination is rapid and the traces of amylene are promptly effaced.

Finally, M. Tourdes designates as a great advantage of amylene over chloroform the absence, or at least the great infrequency, of nausea and vomitings.

M. Duroy, a pharmaceutist, presented to the Academy of Medicine of Paris at its sitting of March 31, a memoir upon amylene, its purification and its characteristics. At a previous sitting of the 10th of March, M. Debout had read a paper upon the innocuousness and the value of amelyne considered as an anesthetic agent. This latter paper gave rise to a commission composed of MM. Robert, Velpeau, and Malgaigne, who reported upon it at the sitting of the same body, May 12th last, through the chairman of the committee, M. Robert.

The paper of M. Debout repeats the statements already made by Mr. Snow, MM. Giraldes and Tourdes, that amylene produces anæsthesia very promptly without any painful sensation, without provoking any cough, or the necessity of spitting, as is often observed in the use of chloroform. During the whole time of amylenation the pulse continues large, full, and very frequent, the respiratory movements ample, the skin warm, the face colored; in a word, there is absence of those symptoms which show that the new agent affects easily the phenomena of organic life. Without entirely substituting amylene for chloroform, this new anæsthetic, says M Debout, should be inscribed among the useful medicinal agents. M. Robert, in preparing his report, used amylene forty-four times upon adults, male and female, and for various operations.

In these several experiments, M. Robert says he did not witness any symptoms of irritation about the mucous membrane of the mouth and bronchial tubes, exhibiting itself by salivation and cough. Generally, the patients became insensible in from one to three minutes, rarely after six or seven. Three became refractory and necessitated the use of chloroform after ten or twelve minutes of inhalation. The anesthesia was produced without being preceded by the symptoms of agitation which chloroform frequently produces. The face was more or less red; the eyelids remained wide open; the eyes fixed, frequently turned up under the upper eyelid; the head was thrown back; sometimes the limbs were extended, becoming stiff. The pulse became frequent; in one case it became intermittent and thready. The res-

piration was free, and I never observed that spasmodic tightening of the jaws with threatened suffocation which chloroform sometimes provokes. It never produces muscular relaxation, and the insensibility it causes would last but a short time if the amylene in the apparatus was not renewed every five or six minutes. The operation concluded, the recovery is prompt, and the patients sustain no ill effects.

This succinct review of the effects produced by amylene proves that this body possesses with ether and chloroform the power of preventing pain, but that it differs from them, especially from chloroform, by the instantaneousness of its action, which ceases the moment inhalations are suspended, and in the fact that it has no effect upon the muscular contractility.

M. Robert reports upon the perfect harmlessness of amylene, by citing the fatal case which singularly enough occurred to the discoverer of the anæsthetic property of amylene—to Mr. Snow himself. This disaster occurred April 7th, to a patient upon whom Mr. Fergusson was to operate for fistula of the anus, Mr. Snow being invited to aid in the operation, and administer the anæsthetic. The quantity used was quite small, and at the end of two minutes loss of consciousness was produced. The operation was performed, the inhalation was suspended, but recovery not taking place immediately, the pulse was examined, was absent upon the left side, and very feeble upon the right, and soon disappeared altogether. Respiration soon ceased, when artificial respiration was continued according to Marshall Hall's plan, and insufflation from mouth to mouth, but without success. The autopsy revealed no cause of sudden death, so that Dr. Snow was forced to attribute it to the action of amylene. This patient was the one hundred and forty-fourth to whom he had administered amylene.

The next question taken up by the commission is, whether it offers less danger than ether or chloroform. Various comparative experiments were undertaken by M. Debout to resolve this question, and which were repeated by M. Robert. The first writer says, if it is necessary to double the quantity of chloroform to convert the anæsthetic dose into a poisonous one, it is necessary to quadruple that of ether and quintuple that of amylene. M. Robert in his experiments on animals found that they became as it were accustomed to the use of amylene, and recovered even a part of the sensibility. The reporter agrees with M. Debout in considering it poisonous but much less active than chloroform, but he differs from him in drawing the conclusion that consequently it is much less dangerous in practice.

An important fact, he says, in the history of anæsthesia is, that it is not from the successive and progressive evolution of the phenomena of intoxication that death occurs in man, but in a sudden and unexpected manner, as though in consequence of a predisposition in the organism, the nature of which is unknown. I have shown this to be the case with chloroform, in a work published several years since, and the case of Mr. Snow's proves it to be the same with amylene. The danger lies in anæsthesia, which, according to the expression of M. Tourdes, is *a diminution of life*, and a *step taken towards death*. Notwithstanding the fact that it is not harmless, it should be retained in practice because its action is prompt, of short duration, and its effects rapidly pass away without leaving behind that general *malaise* which occasionally persists for a long time after the use of chloroform. It is preferable to the other anæsthetic substances for very short operations, when one intends only to annihilate the pain, or simply to blunt it. It is peculiarly applicable for children and patients affected with disease of the air-passages. It should be rejected for long and painful operations, and especially for those in which it is necessary to overcome the contraction of muscles as in luxations and hernias.

M. Robert's report closes by proposing a vote of thanks to M. Debout, and that his memoir should be published in the archives of the Academy.

M. Velpeau, as soon as the reading of the report was finished, arose and said:

"Though I am a member of the committee which had to judge M. Robert's work, and though I have signed the report which has just been read to you, I declare I am not a great admirer of amylene. I have several times tried it at my service at the Charité, and sincerely believe that the successor of chloroform has not yet been found, and that it is, in my opinion, still the best of all anæsthetic substances. I find fault with amylene for its detestable smell, as inconvenient for the assistants as for the patient, the little certainty and constancy of its action, the too short continuance of its effects; and the necessity in using it to employ a special inhaler. Finally, the accident which happened to Dr. Snow, and related by M. Robert, destroys the hopes which had been founded on its innocuousness. As to chloroform, I do not say it is quite innocuous, but I believe the dangers of its use have been very much magnified. I will even willingly say it has been calumniated. For the last ten years I have used chloroform about five or six thousand times for different operations, and on patients of different age and sex; never have I had to lament any accident. I am not the only one in this case amongst the surgeons of Paris. I do not know that any misfortune caused by chloroform has ever happened in all our large hospitals; besides, when death occurs

during or after a surgical operation, is it just in all cases to accuse the anæsthetic agent? M. Robert has, I believe, lost a patient with an amputation of the thigh, to whom he had given chloroform. This last substance has been accused. I am not sure whether it was right. I think this anæsthetic substance is not more dangerous than amylene if it is used with proper precaution. It has the advantage over its rival of not disseminating a disagreeable odor; of being easily manageable, without the need of a special inhaler. It is quite sufficient to pour some drachms of the liquid on a sponge; its action is generally pretty quick, and always lasting; besides, the inhalation can be prolonged without inconvenience, the degree of anæsthesia shows the quantity which it is necessary to employ. The awakening which succeeds to the effects of chloroform is generally pretty quick.

"I sum up by saying that amylene can be introduced into practice, but that it does not deserve to be substituted for chloroform, which still remains the most powerful and most certain of anesthetic agents."

M. Robert then said: The advantages of amylene consist in the rapidity and the short duration of its action; on this account it is proper in slight operations which are very painful. I would call the attention of M. Velpeau to this fact, that we use chloroform now only in serious cases, when it is necessary to continue insensibility for some time. It sometimes happens with chloroform that the insensibility is preceded with a certain agitation, which is manifested by a cough, desire to vomit; the next day there is often gastric embarrassment; and still more, the insensibility produced is of long duration. Chloroform is indispensable when it is necessary to obtain muscular relaxation; but notwithstanding its disagreeable odor, to which one becomes easily accustomed (I speak from experience), amylene has its advantages. Its greatest inconvenience is, to require a special apparatus. Amylene puts to sleep in an instant. For instance, this morning a man came to my consultation with a narrow preputial opening. I operated upon him after having subjected him to the inhalation of amylene; in less than a minute he was asleep, and as soon as the operation was performed he took his hat and left. I do not believe that amylene has any special prerogative of harmlessness, but there are cases where this agent should be preferred to chloroform in operations of short duration, for example, the incisions, opening of abscesses, &c. Without desiring to depreciate chloroform, I think that it is well to leave a little place beside it for amylene.

REVIEWS AND BIBLIOGRAPHY.

First Report of the Clinical Hospital for Diseases of Children. By A. Schoepf Merei, M.D., &c., and J. Whitehead, M.D., &c., Manchester, England.

The institution whose first report is now before us is but little more than a year old, having been opened in the early part of 1856. Its object is not only to be a charity to sick children, but to afford opportunity for "scientific investigation into the causes, nature, and treatment of diseases of children; to inquire into the causes and character of the principal diseases prevalent in Manchester, the progress of physical development in childhood, and the causes which hinder its due advancement; the different modes adopted among the poorer classes, of nursing, feeding, and managing their children; to impart instruction to mothers and nurses, and to spread sound principles on the subject of nursing and managing children amongst the lower ranks; and to afford to students and young practitioners opportunities of acquiring practical knowledge in this branch of medicine."

All these are commendable objects, but it is worthy of note that the instruction of students in this department of medical knowledge is not the least prominent among them. And this is right. There is no class of patients so often treated by guess work, so often victims to the inability of practitioners to diagnosticate their diseases, so liable to suffer from over doses of medicine, as young children, and particularly infants. With them it is especially necessary to have acquired a considerable amount of experience under the direction of those able to teach, before treating them. It is not an easy thing to count the pulse of a child, even when one has learned how to do it, and it is necessary to remember that the pulse is far more frequent than that of adults, before one decides that the patient has a fever. The variations of apparent temperature in the healthy infant are very great, and require to be carefully studied. Slight motions, unperceived by the unpractised eye, are auguries almost infallible either for good or for evil. Trains of symptoms differing but little, are indicative of entirely different diseases, and to recognize that slight variation, is to save the life of the child, while to fail to perceive it is to insure his death. We pause to make these remarks because we are persuaded that there is great need of such instruction this side of the Atlantic. Diseases of children, the dis-

eases of women, and obstetrics, have been in our schools usually assigned to the same professor, and the children's portion of time has ordinarily been small. Obstetrics is a branch of itself properly requiring the full number of lectures assigned to that chair, while the diseases of women now constitute a branch justly demanding about as much time. At present these two are more popular than the diseases of children, as topics of study, and when the three are assigned to the same person, this latter goes to the wall. With pleasure we note the fact that the new school at New Orleans has separated the teaching of obstetrics, and made another professorship of the diseases of women and children. There is no good reason why these two should be united, and while we hail the progressive character indicated by the first step, we hope soon to record the second—that is, the divorce of the remaining two. In this city, where a single Dispensary reports 9000 children treated in a year, there is abundant material for such instruction, which is almost entirely neglected. In part, this is due to the want of interest with students, but more to the want of opportunities for obtaining this information. Good teachers will create an interest in this department readily, and we have had some opportunity to know how grateful students are to those who have taken the trouble to direct their attention to it. But our digression has been longer than we intended, and we return to the report.

Some investigations were made as to the period at which the teeth appeared, and we consider the results sufficiently valuable to quote them.

From the preceding table it will be seen that—setting aside the children noted down in the books as being of a medium development—in the great majority of those with a *favorable* progress of development, namely, in 128 out of 161 children (79 per cent.), the first teeth appeared before the eighth month was past; in 38 of them at eight to nine months; in 12 after the ninth: in 3 after the twelfth; and in none after the fourteenth month; while in the great majority of children with an *unfavorable* development, namely in 71 out of 119 children (60 per cent.), the first teeth were cut at eight months and upwards; in 46 from nine to twelve months, and in 16 even after 12 months; and only in 48 (44 per cent.) before eight months.

From the same table it follows that the appearance of the first teeth at five, six, or even seven months had relatively the best significance for the after process of development; whilst, with a few exceptions, the appearance of the first teeth after the ninth month gave unfavorable prospects for this process.

It was further noted that of those children who were brought at

the age of from twelve to thirteen months, or a little beyond this age, so as to enable us to ascertain their general developmental condition at that time as well as the number of teeth up to twelve or thirteen months, out of 49 with signs of a *good* development, the majority, namely, 32 (63 per cent.) had at that age eight teeth or more, 4 of them had twelve and fourteen each, and with the exception of 5 individuals, all of them six or more ; on the contrary, in a considerable number of children with a *bad* condition of development at twelve months we found no teeth at all, namely, in 9 out of 45 (20 per cent.), and among those of them who at twelve months had any teeth, only 2 had 12 ; 6 had 8, and the rest, namely 32 out of 45, had less than 6, or none at all.

From these data we infer, that at the age of twelve months a child should have 8 teeth or more, and that 6 teeth are almost the minimum number compatible with good development and favorable prospects at that age.

With regard to the complete irruption of the whole series of twenty teeth, we find that the great majority of children having a *good* development have entirely accomplished the first dentition at the age of *two* years, as among 85 cases of this category only 26 had less than twenty at that age, namely eighteen or less, and only one of them as few as twelve ; whilst of 73 children with *bad* development at the age of *two* years, only 10 had all the 20 teeth, 5 of them 18, all the rest 16 and less, 8 of them even only 8, and one only 6 teeth.

We deemed it worthy attention to notice the relative frequency of what may be called *precocious dentition*, namely the irruption of the first teeth before the fifth month. We have no data on this point from other quarters. Amongst our own patients about 40 cut their first teeth at the age of two, three, or four months. This precocious dentition would appear, according to our records, to give little promise for the favorable progress of after development, inasmuch as among the 40 children of this kind 18 were afterwards badly developed ; and with regard to the progress of dentition itself, after that early appearance of the first pair of teeth there was generally a long interval of three, four, or five months, or even longer, before the next pair appeared : and in many cases the early teeth decayed after a few months.

On the contrary, the precocious accomplishment of *all* the twenty teeth was almost constantly the attribute of an excellent state of development. We have seen a few children who, at the age of sixteen or eighteen months, had all their twenty teeth ; some of whom, at nine months, were able to walk freely, and were of exceeding strong habit of body.

But again, there are some suggestive observations concerning the anterior fontanelle, and the progress of ossification of the skull. We quote them, not considering them conclusive, but hoping to draw the attention of others to the same points.

The state of the *anterior fontanelle* we found to serve as a valuable sign whereby to judge of the condition of development within a certain compass of age; at all events, it shows the progress of Ossification of the Skull, and generally that of the whole osseous system.

It became a question as to the age at which the fontanelle has the largest dimensions; whether it fluctuates in its measurements, during the rapid increase of the brain, in the early months of infancy; whether an arrest, or even an increase in its measurements, did not sometimes take place at different ages in the same child; and whether the progress, or the apparent arrest for a time, of ossification of the surrounding circle of bone be always in harmony and in proportion with the progressive ossification of the rest of the skeleton; or if the reverse of this takes place; *i. e.*, whether the anterior fontanelle may remain stationary, or even become enlarged in its measurements, while the growth and ossification of the other parts of the body duly progress.

On these questions—certainly not uninteresting—data are accumulating. From such as we are already in possession of, it would appear that, as a physiological rule, the anterior fontanelle possessed the largest dimensions, not at birth, but at the age of from five to seven months, when its measurement, taken from side to side—not from one angle to another—was from a half inch to two inches: the antero-posterior line frequently exceeding the transverse a little; this rule has reference to children born at full term, and of *good* development. In some cases, however, it was found much larger than is here stated in the second year, measuring even as much as three inches; but in such children the developmental process was in a morbid condition, and rachitis in most of them more or less pronounced.

In some children the closure of the fontanelle progressed very rapidly, in others slowly, without coincident rates of progress in the general development. In one individual, from the age of six to that of ten months, the fontanelle became constricted from two inches at the former, to three quarters of an inch at the last named age, during which period four teeth protruded.

It seems strange that some authors should have attributed so much importance to the expenditure of phosphate of lime for the formation of the teeth, as to see in this demand a frequent and sufficient cause of constitutional disorders at the corresponding period of childhood. What can the quantity of phosphate of lime contained in all the first twenty teeth amount to, in comparison with that consumed in the ossification of the skull alone—to say nothing of the rest of the skeleton—during the first two years of life, the period of dentition?

We will now adduce such data, relative to the closure of the fontanelle, as were derived from actual observation, at the age of from five months up to about three years. It may be first stated that those children, in whom this part of the skull was still open at the age of from eighteen months to two or three years, presented an

unfavorable development to a considerable degree, with the progress of dentition much retarded, and the faculty of walking defective; frequently also anomalies were observed in the shape and relative size of the skull and chest, and many of these patients were rachitic. In only a few cases was there any considerable disproportion in these respects, namely:—in some of them the fontanelle was open at the age of eighteen months, such patients having sixteen teeth or more, and having been able to walk freely from the eleventh, twelfth, or thirteenth month, and *vice versa;* in a few the fontanelle was closed before the first tooth appeared.

In children under our own observation, having a *good development*, the state of the fontanelle was found as follows:

At the age of from 5 to 7 months,					closed in 3,		open in all the others.	
"	"	8	"	"	2,	"	"	
"	"	9	"	"	2,	"	"	
"	"	10	"	"	2,	"	"	
"	"	11	"	"	4,	"	11	
"	"	12	"	"	11,	"	3	
"	"	13	"	"	13,	"	3	
"	"	14	"	"	13,	"	2	
"	"	15	"	"	9,	"	0	
"	"	15 to 18 all closed, with two exceptions.						

After the 18th month it was not open in one having a *good development*.

In children of *bad development* it was as follows:

At the age of 7 months,				closed 1,		open in all the others.	
"	"	11	"	"	1,	"	"
"	"	12	"	"	3,	"	14
"	"	13	"	"	1,	"	12
"	"	14	"	"	5,	"	11
"	"	15	"	"	4,	"	12
16 months to 3 years,				13,	"	14	

In a few individuals we found it open at from 3 to 4 years; these were most unfavorably developed, or rachitic.

From these comparative figures it appears that in the great majority of children favorably developed the skull is entirely ossified at 13 months, and before; and in the great majority of those badly developed, the anterior *fontanelle* is open at 13 months.

Another topic of interest investigated by Drs. Merei and Whitehead is, the relative increase of the dimensions of the head and of the chest of children, but we can only quote the summing up.

If we now look over the whole space of time, from the third month to the fourth year, we notice an increase in the horizontal measurement of the skull of about five inches, and during the following eight years of only about one inch; whilst, on the contrary, the chest during the latter period augments by about four and a half inches, and seems to go on at an increasing rate, the skull growing

more and more slow each year, scarcely gaining more than an inch or two during the whole space of time, from the fourth year up to the thirteenth.

The greatest predominance of the skull over the chest, was most frequently met with between twelve months and three years. This, however, is not to be considered altogether as a physiological occurrence, but as dependent upon the great relative frequency at this period of retarded and disordered development. In fact, whenever at the age of from one to three years the skull was by more than one and a quarter inch, or at the outside one and a half inches larger than the chest, we had, with the exception of a few cases, every reason to regard such children as unfavorably developed. In decidedly nervous temperaments, however, a marked predominance of the skull is sometimes observed after the fifth or sixth year, with a good shape of the head, and otherwise a healthy constitution.

Impaired and disordered development, therefore, is very largely represented by an undue development of the brain—which is in a certain sense a consuming organ, as compared with the lungs—which contrastingly may be considered as productive organs.

Walking was found to be, by the period at which the faculty was acquired, "the most constant and the most trustworthy index of a favorable or unfavorable developmental condition"; but we do not dwell upon it—passing to a synopsis of the observations made on all these points. It may be mentioned that the number of children on whom these observations were made was 530. Of this number,

Those who enjoyed *a strong constitution, a favorable state of development*, and exhibited promising prospects for its future progress, had, in the great majority,

At the age of eight months: at least two teeth; the fontanelle not wider than one inch, the circumference of the skull not exceeding that of the chest by more than one inch.

At thirteen months: eight teeth or more; the fontanelle ossified; the skull not exceeding the chest by more than one inch and a half; and being able to walk.

At two years: having all the twenty teeth; the skull not exceeding the chest by more than one inch.

At three years: the skull in circumference nearly equal to, or even surpassing, the chest.

At four years: the chest exceeding the skull in circumference.

At eight years: the chest exceeding the skull by at least two or three inches.

The face in appearance larger than the forehead, especially so during the first three years; the shape of the skull not angular, and that of the chest well rounded, without lateral compression.

For all who treat infants, it is necessary to understand the merits of various kinds of diet, natural or artificial, and their influence upon children. It is, therefore, not surprising that this is one topic dwelt

upon in this report. We can make but one extract—a table which explains itself, and which again illustrates the fact that abundance of milk from a healthy woman is by far the best diet for an infant, till the teeth have made considerable progress.

I. Children who, from birth, or the age of two to three months, besides an abundance of breast-milk (as stated by their mothers), had received additional *food*, generally boiled bread with milk, or merely with water and sugar, or arrowroot :—*Of* 105, *development good in* 55, *medium in* 29, *bad in* 21.

II. Children who had the *milk of the breast alone, up to the* 6*th*, 7*th*, 8*th, or* 9*th month*, after which period they were partially weaned (about 20 per cent. of them), partially receiving for some months longer other *food* besides the breast :—*Of* 45, *development good in* 30, *medium in* 9, *bad in* 6.

III. Children having had the *milk of the breast* alone, to 9 months or longer, some to 15, 18, or 24 months :—*Of* 30, *development good in* 23, *medium in* 4, *bad in* 3.

IV. Children who had from the earliest infancy a moderate *or small supply of milk of the breast*, some for a few months only, others up to the 9th, 12th, 15th, or 18th month, or longer, with other food from birth :—*Of* 129, *development good in* 29, *medium in* 34, *bad in* 66.

V. Children "hand fed," having had *no breast at all* :—*Of* 10, *development good in* 1, *medium in* 3, *bad in* 6.

In treating of the diseases which were observed at the hospital, several interesting topics are touched upon, though briefly. It accords with our own observation of such patients, that the reporters find the most frequent complication to be that of bronchitis with diarrhœa. There seems to be an intimate connection in infancy between the condition of the mucous membrane of the intestines and of the lungs. West has called attention to it, and we agree with him in saying, that the danger to the patient from the bronchitis is frequently overlooked. The cough is slight, and not such as to attract notice to itself, and therefore careful and oft repeated auscultation of the lungs in cases of diarrhœa, though unusual, ought to be practised if we would avoid the danger arising from this grave complication.

The following quotation from the report is of interest in connection with the position which we have taken, that cholera infantum, as we term it here, is merely a name given to a particular stage of diarrhœa, or entero-colitis.

Diarrhœa was prevalent to excess during July and August. In fact in these months, during, and especially a week or two after that remarkable height of the thermometer peculiar to the past Summer, nearly two-thirds of our patients were affected with diarrhœa, a

proof of its climatic origin and epidemical nature. At that time, in a great number of children who previously were relaxed in their bowels by unsuitable nourishment, chronic diarrhœa suddenly became aggravated by climatic influence, and in some cases was irremediable. Almost all such patients were under two years of age. Undoubtedly, diarrhœa caused by unsuitable dietetic agencies, when neglected, appears as the most generally destructive disease of young children.

It strikes us that if cases similar to those here described had occurred in this city, they would have been unhesitatingly classified as cholera infantum. It is a natural question, what difference does the name make? Often none at all, but in this case much. Cholera infantum is claimed as a disease peculiar to this country, and therefore the teachings of West, Churchill, Trousseau, Bouchut, as well as the Germans, are ignored and disregarded. This, however, would be unimportant, were it not true that the treatment recommended for cholera infantum, when it differs from that advised by Europeans for diarrhœa, almost always varies by advising the use of remedies which we are persuaded very frequently do more harm than good. For this reason we desire to call the attention of practitioners to what we believe to be the true state of the case.

Rickets occurred in twenty-eight well characterized cases, and received considerable attention from the physicians of the hospital. As yet their deductions are not sufficiently complete to be of great value, though interesting theoretically. A singular case of a different character is worthy of note.

James Spellon, 3 years and 3 months old when brought to the institution, presented unequivocal signs of pressure of the brain; he looked dull, the head hanging forward, mouth open, constant salivation. The circumference of the skull was 17 in.; chest 19 in.—great predominance of the chest; skull, relative to the size of the body, of a small circumference, but much convex. On the top of the skull, in the place of the fontanelle, and part of the sagittal suture, the bone was completely solid, and elevated so as to form a ridge, to the height of half an inch. The mother said he was a fine strong child, and in perfect health up to his 8th month, then gradually the present disorder developed itself. This child had his first teeth at 6 months, and at 14 months had all the 20: he walked at 9 months, but lost afterwards the power of his legs. Two other children of this mother had their first teeth at 6 months, all 20 as she stated at 14 to 18 months, and freely walked at 9 months. The mother appeared to be a very strong woman; she said she had such abundance of milk that she could have suckled two children at the same time; she gave the breast alone to each of her children up to the 15th or 18th month. The explanation we give in this case is,

that by a precocious solidification of the skull the growing brain was compressed: the ridge at the top of the skull originated, as we think, from this circumstance, that the over-growing brain, in all other directions compressed, finding less resistance in the situation of the fontanelle and sagittal suture, protruded there, until also this part of the skull became disproportionately over-ossified and unyielding.

This closes the extracts for which we have room, although several other topics of interest are mooted. The earnest diligence with which the physicians have pursued their investigations give promise of larger results hereafter, and we recommend their example to those who, on this side of the Atlantic, have larger facilities for investigation.

On the Nature, Treatment, and Prevention of Pulmonary Consumption, and incidentally of Scrofula, with a Demonstration of the Cause of the Disease. By HENRY M'CORMAC, M.D. *London: Longmans*, 1855, *pp.* 111, 12*mo.*

There is no one subject in the whole range of medical literature which has received more attention than that which forms the title of the volume before us. Yearly the press sends out new monographs, new essays, new volumes. Yearly the tomb gathers its harvest of victims cut down by the sickle of Consumption. The investigations of the pathologist have ascertained the seat of the disease, and have attributed the long train of symptoms to the presence of tubercle. The microscope and chemical analysis has revealed the nature and structure of tubercle, and yet a third of humanity are afflicted with this development of disease, and a fifth of the whole mortality arises from this cause. The labors, then, of the host of writers, and the ardent searchings of the pathologists, have done little towards the great end and aim of our profession—that of saving and prolonging life. The cause is found, but the cause is not removed. The great author of the work upon auscultation, after illuminating, by his genius, the progress of medical science, and adding vastly to the means of distinguishing thoracic disease, could not, with all his knowledge, prevent the fatal blow from reaching himself. Illustrations are numerous, but how to prevent these illustrations, how to prevent the presence of these tubercles, which bring in their train such dire symptoms, and such a sad result. Dr. M'Cormac, in the little volume of one hundred and eleven pages, has endeavored to point out the way. "Consumption," he says, in his preliminary

remarks, "with all its frightful train, is simply, and truly, and only a violation of the physical laws of our being." This is the text of the work, and in the chapters which follow, he continually recurs to it, asserting that by a proper attention to these laws, "the cause and radical cure of Consumption and scrofula, with all their concomitant ravages, are placed as absolutely as small pox itself has been placed, within human control."

This assertion would seem rather dogmatical in the face of the statistics which every writer upon the subject presents, but the arguments given to sustain this opinion merit most careful attention and serious thought. The subject is treated under the following heads: I. On the Nature of Consumption. II. Tubercle, its Constitution. III. Rational or Vital Cause of Tubercle. IV. Proximate or Chemical Cause of Tubercle. V. Remote or Predisposing Cause of Tubercle. VI. On the Treatment of Consumption. VII. On the Prevention of Tubercle.

The cause of Consumption is the presence of tubercle, "tubercle in the tissues and tubercle in the blood." The composition of tubercle is nearly the same wherever found, and consists principally of a hydrocarbon, which the author considers as a very important circumstance. The fatty matter which is found with it is also almost a pure hydrocarbon, and is itself a constituent of tubercle. The fatty liver described by Louis and others, Dr. McCormac considers as really only tuberculous, and he, with Dr. Hall, attributes hemoptysis to the fact that this fatty degeneration occurs in the blood-vessels of the lungs, which give way. The rational or vital cause of tubercle is the tuberculous diathesis, without which no person, however exposed to the various causes usually attributed as the starting points of this disease, will be afflicted by it. "Tuberculous matter, if it do not exist in the blood, is at any rate first formed and deposited from materials abnormally subsisting in the vital fluid. . . . Insufficient, imperfect performance of the respiratory function" supply these materials. "The carbon taken into the system is not discharged, or sufficiently discharged, from the blood in the lungs, and finding no adequate outlet by the liver, skin, or other possible emnuctories, being neither burnt off in the lungs, nor expended in the tissues, is deposited, mainly, as a hydrocarbon in the lungs and other organs, under the form of the bodies known by the designation of tubercles."

And finally we come to the remote, or predisposing causes, which are found in our disregard of hygienic rules, in our daily, our constant

"violation of the physical laws of our being." "It is to insufficient exercise, in-door, sedentary occupations, unventilated habitations and impure air, and not to cold, as was long believed, that the tubercular diathesis is owing."

This is the train of reasoning which is developed in the work of Dr. McCormac's, and which we have endeavored to give as concisely as possible in his own words. A removal of these causes, then, which produce this diathesis, constitutes the treatment for the cure of Consumption and the prevention of tubercle. Pure air, then, by day and by night, constantly renewed so that it may never be respired twice, is necessary for the treatment of the consumptive. Attention to those hygienic conditions which will prevent a renewal of those materials which are converted into tubercle in the lungs, so that when the tuberculous matter already deposited becomes evacuated, no new deposition may take place; or in the event of recent and slight depositions, a further accretion may be prevented. Ventilation free, perfect, of our buildings and our sleeping apartments, both by day and night, good diet and exercise, is the prophylactic. The plan of treatment is simple, and doubtless is the only safeguard against disease, let it be in whatever form it may.

The views here expressed are sustained by frequent reference to known and standard works, which shows extensive reading and much erudition upon the part of the author. The terse style, the apposite references, the clearness with which the propositions of the author are enunciated, and the logical arrangement of the work, all together render it an attractive volume.

The material contained within these hundred pages could easily have been extended to a more pretending volume; as it is, we have seldom met a book which has accumulated in its pages more of the true grain of thought, winnowed from various sources, and less of chaff, than the one before us. The author's views seem to flow naturally from the results presented, by approximating the labors of others, and it would be well if every person could read the scientific evidence here accumulated in support of the benefits resulting from pure air, free ventilation, good diet, and sufficient exercise. We cordially recommend the volume to everybody.

The Principles and Objects of the Massachusetts Medical Society. An Address delivered at the annual meeting, June 3d, 1857. By M. S. PERRY, M.D.

The *seventy-sixth* anniversary of this society, held in June, places it among the most venerable of these associations, and naturally suggested to Dr. Perry, the chosen orator of the occasion, a consideration of what it had done and of what it ought to do. Retrospectively, the speaker claims that it has raised the standard of medical education and of morality; that it has done much to advance medical science and much for the protection of the public by the prevention of disease. All these claims will be cordially allowed by those who are informed upon them. When the speaker comes to the question of the present duty of the society, he maintains that it ought to raise the standard of medical education higher, and should send among the enlightened portion of the people correct notions in regard to what is true and false in the practice of medicine. We cannot follow the speaker in the interesting discussion of these points, and are compelled to limit ourself to a single quotation. This we make at length, in justice to the society, for it has been greatly blamed, and is looked upon with suspicion on account of its encouragement of charlatans. The extract shows the cause of this connection, and how its honorable members desire that it should be severed. Every consideration demands its speedy accomplishment.

It can appoint at its annual meeting an independent committee, selected from among its most intelligent members, who shall quarterly or semi-annually, at such places as they may select, examine every physician, whether a graduate or not, who applies for admission into the Society. If the candidate is found deficient in any one of the required studies, he should be rejected until he can pass such examination.

This committee would, of course, take the place of the present censors; and I might, if I had time, give you strong reasons for this change: but they will readily suggest themselves to the mind of any one who will give the subject a moment's reflection.

It will at once be asked how these changes can be made, when, according to the present act of incorporation, any man who has a degree of M.D. from the Harvard or Berksire Medical Schools can become a Fellow of the Society, without passing through the formalities of an examination. It cannot be done without an alteration of the charter, and an entire separation from these schools. This must be done, or you cannot move one step. There never was a greater mistake made by this Society (and I say this with all deference to those who brought about this coalition) than that of admitting graduates from these schools into their fellowship, without

an examination. The moment this privilege was granted, a blow was levelled at its independence, from which it can never recover until it has retraced its steps. It opened the door for men to enter who could practice upon the principles of any new doctrine; could slander the members of the Society as much as they pleased, and set at defiance its power. Let us examine the operation of this alliance for one moment. Let us take, for example, the requirements of Harvard Medical College, and their practice of giving degrees, and compare them with the requirements of this Society. And, in doing this, I am not disposed to find any fault with the College; for I think its requirements are as great, and the examinations as rigid, as at any school in the United States; and I think, if sustained by the opinion of the profession at large, the professors would gladly raise the standard of their requirements. But what says Harvard Medical College? If the candidate for an examination has not received a university education, he shall satisfy the Faculty of Medicine in respect to his knowledge of the Latin language and experimental philosophy. What says this Society? The candidate for fellowship to this Society "shall have such acquaintance with the Latin language as is necessary for a good medical and surgical education, and shall have acquired the principles of *geometry* and experimental philosophy." And then, in a note explanatory of what it means, it says, "It is understood that he be able to translate the Select Orations of Cicero, the Æneid of Virgil, or the medical writings of Celsus, and the formulæ of the Pharmacopœia of the United States; and that he have a knowledge of Euclid, Pierce's or Loomis's Elements of Geometry; also of Golding Bird's or Olmsted's Natural Philosophy, or the Cambridge Course of Physics." Harvard Medical College says it cannot go behind its charter, and must examine any man who presents himself with the proper certificates; and I understand, that in the examination of candidates, if they pass in five or six of the required studies, and fail in one or two, they are allowed to have their degrees. What says this Society? "The censors should satisfy themselves, by examining applicants, that they have pursued a course of study *fully* equal to that prescribed by this Society."

A man presents himself to the faculty of Harvard Medical College with his certificates, and passes an examination. He tells them that he intends to practice homœopathy or Thomsonianism, or any *ism* of the day; and they cannot refuse him a degree; and if he applies to this Society for membership, he must be admitted. What says this Society? In a recent act, it sustained the censors of the Suffolk District, when they rejected a man *because* he acknowledged that he was opposed to the principles of this Society, but sought admission into its ranks on the ground that it would secure him the confidence of the community.

This Society may send out as many reports as it pleases, and advise its members to hold no communion with pretenders. The mischief is done when they are admitted into the Society. Expel

them, and you raise the cry of persecution. Call them irregular practitioners, and they show you their diplomas. This Society is alone responsible for its connection with the medical schools. When it was proposed to have graduates from the medical schools enter the Society without an examination, the Society had the power to accept or reject the proposal. If you will examine the reports and records of the Society, you will find that the alliance was not formed without decided opposition. The Society is alone responsible, if it allows this state of things to continue. But, if the schools and this Society hold the same relationship hereafter that they do at present, these conflicting elements must, in some way, be harmonized. The only way to protect this Society is to divorce it from the schools, to raise its standard of requirements, to examine every candidate in all branches of medical science, and to infuse into its ranks the spirit of united and determined action. I believe this course would be better for the schools. It would stimulate them to greater exertion, and inspire them with a spirit of pride and emulation.

PROCEEDINGS OF SOCIETIES.

ACADEMY OF MEDICINE.

The regular monthly meeting of the *New York Academy of Medicine* was held Wednesday evening, July 1. Dr. Mott presiding.

After the reading and acceptance of the minutes of the last meeting, Dr. Reese read—for a Committee appointed by the Section on Theory and Practice, to whom was referred the paper on the "National Hotel Sickness," by Dr. Wynne (which appeared in the MONTHLY for *June*)—the following report on that paper:

The section of the New York Academy of Medicine on Theory and Practice and Medical Pathology, respectfully report:

That the paper by Dr. Wynne, referred to them, in relation to the late endemic at the National Hotel in Washington, together with accompanying documents on the same topic, have occupied two several meetings of the section.

At the first meeting the author of the paper, being present by invitation, was heard; and the testimony of members of the section who had professionally attended any of the sufferers by the endemic, was received touching the symptoms and treatment. Letters were read from Drs. Stone, Hall, and others, and a free interchange of opinion was had, without reaching any very definite conclusions, in the absence of the full history of all the facts, and pathological information as to the fatal cases which are reported; in both of which respects we are to a great extent without precise and and adequate knowledge. Hence the section adjourned and reäs-

sembled for still further consultation, after time should be allowed for reflection, and for any further developments. The subject was then discussed in all its bearings, and in view of all the light which has been cast upon it from every source.

Remarks were made, first upon the topography of the locality and its surroundings, where this obscure malady exhibited itself, viz: the National Hotel, within which it first appeared, and to which every known case is ascribed. Its sewers and their traps—its cesspools, sinks, water-closets, and their several conduits for the removal of the offal, &c., from the premises, were all inquired into as set forth in the documents before us, and as derived from the personal knowledge of the medical men present. The questions submitted being how far the violation of sanitary laws in these structures, and their condition during the cold weather of the last Winter, would authorize the belief that an effluvia of noxious gases from these sources might impair the health of the inmates, and generate a poisonous atmosphere, which would be adequate to the generation of disease.

So far as the opinion of the section was expressed, the affirmative of this latter theory appeared to be generally assented to; which is believed to correspond with the views taken by the Washington Board of Health, and most of the physicians on the spot, who have the best opportunities for forming a correct judgment.

2. The second inquiry was whether the symptomatology of the disease, as described by all the medical observers, and which seems to have been singularly uniform, presents any peculiarity requiring the presence of any other or more potent morbid cause than is to be found in the foul air, which, as it is proved, pervaded, in greater or less degree, the entire building, and which in some of its apartments was intolerably offensive, and beyond relief by the ordinary and available means of ventilation, especially in the sleeping rooms of the inmates.

The prevailing judgment of the section seemed to regard such foul air and noxious effluvia to be fully adequate to the production of all the symptoms described, modified as the disease was by febrile indications and periodical remissions, exacerbations and relapses, in many cases; pointing to the miasmatic climate of the locality as contributing to its aggravation.

3. The next topic of consideration was the probability or possibility of the endemic having arisen from any animal, vegetable, or mineral poison, as has been suggested, having been mingled with any of the articles of food or drink used by the guests at the hotel, either by accident or design.

The section, after full discussion, seemed to concur in the opinion that no known poisonous article from either kingdom of nature would have produced all the group of symptoms which so uniformly characterized the cases, and certainly not without involving the stomach itself in more serious mischief than is alleged to have been present in any case.

These several topics having been thus disposed of, a full expression of opinion on the whole subject was called out from the chairman, and from each member of the section; which seemed to result in entire unanimity of views. Whereupon the undersigned were appointed by the section to prepare a minute of these general opinions, to be submitted to the Academy at its next meeting; not as assuming to decide upon those branches of the inquiry which relate to the chemical, microscopical, and pathological investigations yet to be made, and which may possibly throw new light on this dark subject, but opinions based on all the information at present available, and which may require essential modification from future developments.

With this qualification, we unite in the belief that the source of the epidemic in the National Hotel at Washington, was solely a poisonous atmosphere, probably engendered in the receptacles for offal and other filth, under the building, or adjacent thereto, in the sewers, &c., these having been obstructed by ice, or otherwise by neglect, until the accumulation of foul air and noxious gases involved the atmosphere in and around the building, and, as in other cases of malarial exhalation, severely and dangerously affecting its inmates.

This foul air we regard as the *one common cause*, which exposed all who inhaled it to a predisposition to the malady, which itself was modified in individual cases by previous health, and developed with greater or less promptness and severity by excesses, or indiscretions in diet, drinks, exposure, &c., either of which might have been harmlessly indulged in but for the universal predisposition induced by the atmospheric poison. And, in like manner, even the predisposition, as in other cases, was not followed by an attack in all such, because no exciting cause was applied of sufficient potency. And again, many who received this predisposition had no symptom of the malady until days or weeks after they had left the atmosphere of Washington and returned to their homes. Then, under some exciting cause, the disease was developed, their predisposition having remained latent meanwhile. These cases have been sufficiently numerous all over the country, and so well characterized as to be identified at Washington by unequivocal pathognomic symptoms.

Finally, this view of the subject appears to us to explain many of the circumstances reported by authority as marking the endemic, and which are wholly inconsistent with any theory of mineral poison. For example, while some persons sickened after a single meal, or a single drink taken at the bar, there were many others who ate, drank, and slept exclusively in the hotel, throughout the whole endemic, without a single symptom. There were, besides, numbers who suffered an attack who neither ate nor drank in the house, but only visited it, or mayhap slept there. Yet it is remarkable that no case of the disease is alleged by anybody in which the patient had not been in the hotel and inhaled its air. Hence this common cause, the poisoned atmosphere, having been present in all cases, while none of the other causes are known to have been present in many,

and all are known to be absent in others—these facts render our conclusion rational and philosophical. And as it is "illogical to seek for more causes for any effect than are necessary for its production," we are not willing to admit any other poison than that which the foul air of the hotel furnished as the common cause of all the endemic visitation which has been suffered by our Washington neighbors; and we commend to the civic authorities there and every where the sanitary lesson taught by this pestilential endemic.

Let none of them henceforth ignore the facts here exemplified, that at whatever season of the year filth of any kind is allowed to accumulate, to an extent sufficient to pollute the atmosphere of any inhabited house, the health and lives are endangered, not merely of its inmates, but of its neighborhood, by the privation of pure air for lack of ventilation, no less than by the noxious and poisonous quality of the infected atmosphere itself.

The views thus briefly set forth, are based on the facts of the case as submitted to the section, and might be sustained amply by references and authorities employed during the discussion, but their introduction here has been judged unnecessary, in this paper, which is intended only as an embodiment of the discussions and opinions of the section, and submitted as such to the action of the Academy.

All of which is respectfully submitted,

D. M. Reese,
Sam. A. Purdy,
Joseph M. Smith,
Henry S. Downs,
} Committee.

When the reading of the report was finished, the President, *Dr. Mott*, remarked that he had had a Spanish gentleman under his care who was a victim to the National Hotel disease, that the symptoms were such as he had never before witnessed as those arising from and attributed to malaria, and that he could not see in the rise and progress of this disease, the accidents occasioned by mephitic air and bad ventilation.

Dr. Douglas related the symptoms and treatment of a case which had fallen under his care, and the marked symptoms of which closely resembled those given by Dr. Mott, namely: a tearful state of the eyes, redness of the lids, fullness of lower eyelid, a bloated state of of the face, coryza, sore throat, salivation, profuse and recurrent diarrhœa, &c., which were similar to those produced by small doses of arsenic. Failing to relieve these symptoms by the use of opiates and astringent medicines, he had recourse to the hydrated peroxide of iron, which immediately had the effect to check the nasal flux and the diarrhœa.

Dr. Watson stated that he did not think these symptoms were such as either arsenic or corrosive sublimate would produce. The

effects of these mineral poisons in large doses, he said, were too well known and too marked to be spoken of, and in small and frequently repeated doses he was not sure that the symptoms already mentioned were peculiar to them, that they were present as the result of infectious air, that he could not see in them anything which specially pointed out the action of these poisons. Corrosive sublimate, too, would manifest itself in a metallic taste.

Dr. Horace Green said he had been informed that day by Dr. Lindsay, Jr., of Washington, that ulceration of the stomach and bowels had been found in the only case of death from this cause in Washington city, in which a post mortem examination was held.

Dr. Reese replied that he had been informed by letter from Dr. Stone, of Washington, that no lesions of the stomach were found in this case, but a chronic disease of the pylorus.

Dr. Griscom was of the opinion that lesions of the stomach and bowels even if found, would not be evidence of mineral poisoning. Such appearances were frequently observed resulting from malarious diseases, as one might be convinced by witnessing the autopsies at the New York Hospital.

Dr. J. R. Wood hoped the Academy would be cautious in expressing an opinion upon this subject. New facts and new views were being elicited by the committees which were investigating this question in Washington, and he trusted the Academy would be chary in adopting any opinion unless sustained by thorough investigations based upon the careful analysis of facts sustained by chemical, microscopical, and pathological investigations.

Dr. Griscom said that Prof. Reid—than whom there was no one living better able to give an opinion of the effects produced by malaria and bad ventilation—had remarked the bad state of the National Hotel, the offensive effluvias which greeted him in its corridors, and had predicted some serious illness to its inmates, which would make sad and fatal havoc among them. He was, therefore, not at all astonished when he heard of the outbreak of this endemic. Prof. Reid had remarked that it was a libel upon arsenic to attribute it to that mineral.

Dr. J. M. Smith, who was Chairman of the Section whose report had just been read, defended the conclusions of the report, and went into an exposition of the plan which was adopted to arrive at the conclusions set forth in the report. He traced minutely the symptoms of the disease, and then drew a parallel with those produced by arsenic and corrosive sublimate. They did not coincide,

and were accordingly excluded as the sources of the endemic. A vegetable poison was suggested, but none was found whose symptoms would favor its being considered as the cause of this disease. As some cases were known to have occurred in individuals who had neither eaten or drank in the hotel, the cause must have been in the air of the house, and it was consequently attributed to this cause by the unanimous action of the Section.

Dr. Holcomb related a case of a gentleman afflicted with this disease, whom he had recently seen in Chicago, presenting the full, bloated appearance of the face, and otherwise resembling the case mentioned by Dr. Mott.

The report of the Committee was then accepted, and the subject was again referred to them to report at any period that might suit their convenience, upon any additional facts which might be presented to them.

The Secretary then read a communication from Dr. Reed, of New Jersey, "On the radical cure of hernia." This paper narrated several cases which had been cured by exciting inflammation in the inguinal canal by means of a seton passed along its course through the use of a needle invented by the writer. This paper was referred to the Section on Surgery.

The discussion on Puerperal Fever, set down for this evening, was then, by action of the Academy, postponed to an extra meeting to be called for that purpose on the third Wednesday in September.

Dr. E. H. Parker then read a paper "On the preservation of vaccine virus, both in the fluid and solid state," which will be found in the present number of the MONTHLY. It was referred to the Section on Theory and Practice.

A short paper was then read by *Dr. Nathan Read*, of Illinois, upon the Milk Sickness of the Mississippi valley. He called the attention of the members of the Academy to the fact that cattle were brought into this market afflicted with this disease, that it was communicable to those who ate the meat of these animals, that cooking did not eliminate the poison, and that the disease frequently did not exhibit itself for some time after there had been an exposure to the causes. The facility with which these animals were now brought to market by railroads, made it important that the people of New York should be acquainted with these facts and take measures against the use of the meat of animals thus affected. The Academy passed a vote of thanks to the author. The Academy then adjourned.

SELECTIONS.

Soft Cataract,—Certain Complications Disqualifying it for Operation, or Rendering a Permanent Result Doubtful.

The following particulars were gathered from clinical remarks made by Mr. Haynes Walton on some cases of soft cataract under treatment at the hospital, and on some which had been operated on.

The first topic dwelt on was the frequency of general unhealthiness of the eye-ball in association with the development of cataract in early life, not of congenital origin, and the importance of discrimination in such cases. The remarks were directed to instances, in which there were not those external evidences of disorganization that are readily recognizable by any one possessing the most superficial knowledge of eye diseases; for instance, more or less adhesion of the iris to the capsule of the lens, with discoloration of this curtain of the eye; discoloration of the sclerotica with undue vascularity; shrinking of the globe of the eye, &c. But they were intended merely to apply to less perceptible conditions, which would be appreciated by those only who are well advanced in the science of ophthalmology, hence his selection of them for clinical teaching.

From the state on appearance or the cataract itself, nothing could, as a rule, be gathered, as the different aspects of degeneration of the lens, and of opacity of the capsule, may be seen under any conditions; but the criteria are these:

The State of the Chambers of the Eye.—The iris may be pushed forwards by changes in the cataract itself, due, in all probability, to the swelling of the diseased lens from the imbibition of moisture. When there is a very marked degree of this change of parts, and the iris bulges, so as to destroy the space of the anterior chamber as well as the posterior, and especially if it touches the cornea, there is most likely unnatural vascularity in the deep-seated textures of the eye-ball. This is rendered more sure if there exist unusual development of the veins on the front of the eye-ball. The movements of the iris are always interfered with by such pressure, and contraction and dilatation of the pupil, as an index to the health of the eye, is therefore lost.

The State of Vision.—Mr. Walton endeavored to give some general idea, by the examination of patients, of the amount of sight which may be expected in certain stages of the opacity of cataract, as a knowledge of this is a key to the state of the interior of the eye, whether healthy or not. This, as a test, is more applicable in the earlier stage of the disease, and may be the only one available; but it should be conclusive. A feeble lad, with cataract in one eye, was examined. The disease had been observed for a year, and had appeared without any known cause. Only one eye was affected. The iris was palpably pressed forwards, and the anterior chamber much encroached on; otherwise the eye did not seem abnormal, but the retina was too feeble. The opacity of the lens was but slight; yet,

under the most favorable circumstances of position and light, no definite idea could be formed of any object that was submitted to his examination. In parallel cases, with the cataract more advanced, when of course it is not so easy to determine whether the interior of the eye is diseased, the existence of flashes, of numbers of muscæ volitantes of different forms, sizes, and in different plumes, will materially assist in the diagnosis. Mr. Walton proceeded to speak of the propriety of surgical interference in these questionable cases, under the idea of giving a patient "every chance." The most hopeless eyes, those quite disorganized, were often improperly operated on. With a reasonable hope a surgeon should attempt to effect the restoration of sight; he would be open to blame if he neglected any opportunity; at the same time he would be acting improperly to operate when no benefit could possibly ensue. He also mentioned that there could not be recovery of certain degrees of vision, as afflicted persons were wont to hope, according to the stages of their disease. To touch an eye-ball generally diseased is, nine times in ten, to advance the disorganization. Besides that, the effect of an operation on an eye, more or less unhealthy in its internal parts, must be regarded in another light,—that of ultimate result, as the restoration of sight may be but temporary.

The following was one of the cases given in illustration:—The subject was a male about eighteen years old. Both eyes were slightly shrunken; the pupils were closed, and all traces of the color of the irides, as also of their structure, were lost. He had been brought to the hospital a few years ago with cataracts, that formed with unusual rapidity. The only proof besides such quickness of development of any complication, was a small adhesion or two of each pupillary margin to the capsule of the lens. As there were no evidences of active inflammation, nor of impairment of the power of the retina, operations were advised, and the parent who used to accompany him was duly told that there was an amount of uncertainty surrounding the issue, both temporarily and prospectively. Mr. Walton operated, and the absorption of the opaque lenses progressed favorably, and in due time he was enabled to take to his former occupation. But that was of short duration. Whether from a continuation of the disease that originally invaded the eyes, or the development of new action in a part that had been enfeebled, it is impossible in this particular instance to say, but the sight began to fail, and proofs of morbid changes in the tissues of the eyes were soon apparent.—*The Medical Circular.*

Treatment of Rachitis. By M. Trousseau.

Before we proceed to recount the resources which, in the treatment of rachitis and osteomalacia, we have in the materia medica, let us consider what hygienic conditions have most influence in retarding the development of these affections.

Hygienic Means.—To interdict every habitation that is either damp

or not sufficiently exposed to the sun, or where the air and ventilation are bad; to recommend removal to the country, or, rather, to the sea-side; to forbid any but the most moderate exercise, and even, in some cases, to enjoin absolute rest, so as to prevent the bones from heaping together, the incurvations from being augmented, or the number of fractures increased.

In very young children the kind of food is a consideration of the utmost importance. We have seen, when speaking of the etiology, that rachitis shows itself most frequently in children that have been weaned soon after birth; and we have also seen that, in order to produce softening of the bones in certain animals, it is only necessary that they should be fed with food both bad in quality and unsuited to their age. Meats of every kind should then be proscribed, as well as rich soups, to both which parents and physicians sometimes have recourse, in the persuasion that such substantial nourishment is the only means that can be opposed to the weakness and listless inactivity of the infant. A rigid milk diet is necessary; without this, therapeutic means can be attended with only partial success. But these precautions must be especially insisted on in cases where dentition is tedious and late.

In the adult, this part of hygiene is of secondary importance; if, however, it be recollected that osteomalacia has, in several instances, shown itself in individuals subjected for a length of time to privations, and that another affection, analagous if not identical—*senile atrophy* of the bones—occurs, for the most part, in persons who have used only insufficiently nutritious food; an important item in the treatment must be food, both wholesome and abundant.

Therapeutic Means.—The remedies that have been made use of since rachitis has been studied with some care—that is, since the beginning of the seventeenth century—are very numerous, and have been selected chiefly from such as were usually prescribed in other manifestations of the primary causes to which rachitis has been referred. Hence the treatment prescribed has consisted of mercurial, sudorific, and antiscorbutic medicines; and alkalis, too, have been given, with the intention of obviating the excess of acidity said to exist in the humors of rachitic children. Madder, which has no other property in diseases of the osseous system than that of communicating a red color to the bones, was also given, and with as little reason. Glisson himself advised blood-letting, and such external applications as fomentations, blisters, cauteries, moxas, &c. Bitters came next to be used, and their employment had greater success, until superseded by another therapeutic means, highly extolled of late years by my illustrious master, connected with which are the following circumstances: M. Bretonneau, in 1829, had under his care a young rachitic Hollander, sent to him into Touraine, whose brothers had also been rachitic in their youth, but had been cured with cod-liver oil. M. Bretonneau, yielding to the importunity of the father, decided on treating his little patient with cod-liver oil, and in two months the cure was accomplished. The physician of Tours, who,

as yet, was but half convinced of the efficacy of the remedy, prescribed it for other children, and with complete success. Moreover, cod-liver oil, train-oil, and seal-oil, have, for a length of time, been in use along the coasts of the Baltic and North Seas, for the treatment of scrofula and rachitis, as well as rheumatism. But this treatment made its way but slowly in France, where the second of these diseases is rightly regarded as quite different from the first. And this circumstance plainly shows us these two things—that we should never be guided exclusively by theory, and that the adage, "*Naturam morborum ostendunt curationes*," is not always correct.

The use of the cod-liver oil in the treatment of rachitis has now become general; but it is necessary that I should briefly point out to you the rules to be observed in prescribing this precious therapeutic agent. The doses, as well as the manner of using, it vary with the ages of the patients. Children from twelve to eighteen months, if weaned, must be again applied to the breast, or confined to a milk diet; every other kind of food being too nutritious, must be interdicted. These precautions are all but indispensable to success. The patient should at the same time, take daily from ten to fifteen grammes of the oil, either in emulsion, or mixed with syrup of tolu, or with coffee, or, better still, with syrup of orange peel. These mixtures are not, however, indispensable, for we have seen in our wards at the Necker hospital, children who, after a few days, not only took this remedy in its natural state and without admixture, but even with a sort of avidity.

Under this treatment, so simple, the acute pains which these children experience subside, in ordinary cases in less than a week, and the bones in a short time recover some degree of consistence. Should some degree of diarrhœa, as usually happens, occur, sub-nitrate of bismuth, or prepared chalk may be given, and a few grains of carbonate of soda may be added to the milk used for food. Should these means prove insufficient, the dose of the oil should be diminished, or its use should be discoutinued for a day or two, when it should be again resumed. The diarrhœa is in this way easily checked, and you are not obliged to discontinue altogether a remedy which is quite unique in its effects.

In children from two to four years, a milk diet should still be insisted on, but less rigidly. With this may be conjoined the use of spoon-meats, eggs, and leguminous vegetables. The dose of the oil may be increased from fifteen to thirty grammes, as the digestive tube will bear. Should the patient be very weak, bitter tonics may be given at the same time, such as cinchona and gentian. Should the child be affected with rachitis in a severe degree, the recumbent posture should be observed as much as possible, and he should not be allowed to attempt walking until no pain is experienced in a standing position, and even then the exercise must be very gradual and very moderate, so that the weight of the body occasion no fracture or new incurvation, or prevent the disappearance of the old lesions.

Children from four to five years should have more substantial food,

care being taken to avoid such as is indigestible. The other indications remain the same. The oil should be increased from thirty to sixty grammes daily in one or two doses.

Adult patients should neglect neither a residence in the country nor insulation, nor sea-water baths, which in several instances have been found of great service. Should the disease be undergoing a cure and the patient can walk without too much difficulty, exercise, if very moderate, will have a good effect; but should it not be so, the recumbent posture must be observed, and every care taken to prevent such shocks as might occasion fractures and consequent deformities, for which purpose, as well as for preserving the trunk and limbs in their normal direction, numerous cushions of various sizes, and splints loosely attached, may be necessary. Should there be such complications as spasms or permanent contraction of muscles, narcotics must be had recourse to, but as such symptoms are epiphynomenal, your chief efforts must be against the disease itself. We have just seen the result of M. Bretonneau's first trial of cod-liver oil to which he at first accorded but a questionable degree of utility, but which so rapidly became in his hands, as well as those of Guersant and Blacke, and my own also, so precious a specific.

Cod-liver oil is not the only oil that may be used, for the fish oil of commerce, train oil, seal oil, and that of herrings and sardines, have the same property; and, generally, the more rancid and brown the oil, the greater its activity. If the action of different oils be compared it will be seen that vegetable oils are assimilated with difficulty, while animal oils may be given for a month without interruption—a differential character which it is important to know.

But not only may cod-liver oil and the fish oil of commerce be given, but also the animal oils—bacon and butter. Two hundred years ago scrofulous subjects in Scotland, and rachitic children were treated with fried bacon, the liquid fat of which they were also made to drink. Butter is an excellent article of food for rachitic children, tartines of which may be prescribed alternately with tartines of goose-fat or fried bacon. The repugnance of patients for such remedies should be combatted by every possible means, and should their use be discontinued for a while, so as to give the digestive tube some repose, yet must it be again in a short time resumed. Without this indispensable precaution, the oil would no longer be assimilated, and you would thus cause formidable indigestion.

Under the influence of cod-liver oil the rachitic pains in children soon become mitigated and subside, and the peculiar action going on in the bones is put a stop to; the little patients can recover their strength and plumpness, and the incurvations become modified by a mechanism very difficult to describe, and which I do not comprehend; but the body does not fail, ere long, to recover positively a certain degree of its natural rectitude.

We shall say nothing of the various kinds of orthopædic apparatus in use from time immemorial, and to which various practitioners have been indebted for numerous examples of success. In every case

such means ought not to be used without much discernment. A cheap contrivance employed in rachitic fractures, and which may be useful, too, in restoring the shape of the bent bones, when the incurvation is not of very long standing, is the dextrine apparatus of Blandin, who used it frequently in the treatment of club-foot, and who recommends its application for those incurvations that accompany softening of the bones of the extremities.

Not only are bandages not indispensable in very young subjects, but they are more hurtful than useful. In such young children the incurvations disappear entirely without local treatment. The case is not the same, however, when they are complicated with fractures; for, though the periosteum retain the fragments in contact, yet if the fractures are left to themselves, the deformities they occasion persist, and the bones consolidate in a vicious position, which they retain through life. Nor would any one have recourse to such bandages in the acute stage of softening, since their use would now be as painful as their success would be doubtful, when the bones have acquired that ivory-like solidity that succeeds.

Such are the hygienic, pharmaceutic, and mechanic means that may be had recourse to in the treatment of softeninng of the bones. In their use regard must be had to the age of the subject, as well as to the form and stage of the disease. But the most important part of the treatment consists in hygienic conditions, and the use of fish oil, which, in this disease, has really a specific virtue.

You may have observed that, in the course of these lectures, I have used indiscriminately the expressions fish oil and cod-liver oil, and I have done so because their action is the same. The cod-liver oil in actual use is specially prepared for the purposes of medicine, and is less disagreeable to take; but the efficacy of fish oil is by no means doubtful, and its greater cheapness ought to give it a preference with the poorer classes, among whom softening of the bones is seen to exert its greatest intensity.—*Medical Circular.*

The Insane Colony of Gheel. By JOHN WEBSTER.

"Accompanied by a head attendant, and the inspecting physician —Dr. Bulkins, who most kindly showed me everything worth noticing—I visited numerous houses in the town, and a great many cottages scattered over the adjoining country; in which, often one, although most frequently two, and occasionally three insane persons resided. That is the general system followed, with but very few exceptions; seeing not more than five instances exist throughout the entire colony, where beyond four patients are placed with the same family, but only then for special reasons, and after an express authorization from the committee of inspection is obtained. Being occupied during two consecutive days in visiting various abodes, ample opportunities were thus afforded for seeing whatever was either interesting, important, or peculiar; and, consequently, thus form some general opinion respecting the establishment. With reference to patients residing in rural dwellings, it should first be remarked that, amongst

the seventeen hamlets of this commune—some being even like villages—in three no lunatics are received; and, however anxiously most householders often desire to obtain insane boarders, throughout all the neighboring communes an opposite feeling is very prevalent.

"Speaking generally, the sexes are usually lodged in separate houses. However, in regard to very aged persons, whose disease was chronic, and were of quiet, inoffensive dispositions, a man occasionally lived in the same family where an insane old woman also resided. All suicidal, dangerous, homicidal, or mischievous insane patients are rarely if ever received as inmates at Gheel; while, on the other hand, should any resident subsequently come under these categories, they are forthwith sent home, or to an asylum elsewhere. Again, the authorities generally place boisterous, idle, or agitated maniacs in remotely situated and solitary cottages or farm-houses, which occupy the open heaths; where, such lunatics, having no neighbors, cannot disturb any person, or cause much annoyance. These, although excited or very noisy, may there walk about without danger to others or themselves; being thus placed beyond the observation of bystanders, not near similarly afflicted fellow creatures.

"When perambulating the various hamlets visited—often through pretty but devious pathways—we frequently noticed lunatics occupied as agricultural laborers in adjoining fields; whilst some were quietly walking to or from neighboring cottages, quite as tranquilly as ourselves. Being all well acquainted with the inspecting physician, these parties saluted him respectfully, and often conversed with us familiarly; in short, they behaved like ordinary peasants, or any rational person. We saw others sitting at the cottage doors, and some looking out of windows; while several were amusing themselves with children of the family, in adjoining gardens or enclosures. In one of the public roads we met a maniac, who lived in a cottage at some distance, then carrying an infant in his arms like any nurse. He seemed to take great care of his innocent charge; and the physician remarked that such an occupation constituted this lunatic's chief enjoyment. Afterwards, we encountered another insane resident—a young man—amusing himself with three children, romping with them, and at the same time taking care they did no harm. In a solitary lane, we next came up with a patient, who was being conducted homewards to dinner by the juvenile daughter of his host, after laboring in an adjacent field. In various other instances, we observed insane persons sauntering about; and some also going towards or returning from neighboring farmhouses. In truth, had it not been from the vacant-looking countenances noticed in most cases, and occasionally that their legs were loosely tied together by leathern thongs—so as to prevent the wearers from running fast, or going to any distance—I should scarcely have recognized many of the parties then enjoying themselves, while breathing the pure and open air of heaven, as real lunatics residing in the Gheelois commune."—*The Medical Circular.*

Dr. Hayes on Arctic Diseases.

He said that the influences of climate upon the animal economy were marked, and the diseases peculiar. He had never seen a case of Tubercular disease among the natives, and this is doubtless due to the great consumption of fatty food. If he had a consumptive patient he would send him to Greenland, if possible, and put him upon train oil diet, with a dog sledge and a bear hunt for exercise. He had heard of but one case of hæmorrhage from the lungs, through his friend, Dr. Kane, Jr.

The crew of the *Advance* suffered much from scurvy, but the Esquimaux are rarely afflicted with it. The prevalence of this disease he attributed to the combined influences of salt food, darkness, and cold. The darkness seemed to have a bleaching effect, and tended to diminish the coloring matter of the blood. The brick-dusty appearance of the blood, mentioned by Dr. Kane in his narrative, expressed it very clearly. In the treatment of this fearful disease he derived much benefit from the use of raw potato, which he dressed for his patients as a salad; but its effect was lost when the severe cold weather of mid winter set in, overpowering the vital forces. Strong carbonaceous food was then requisite, and potato was good only as an adjunct. His specific was then walrus meat, or still better, the liver of the same animal. But the term *specific* he would only use here as applicable to the meat in its raw state. It seemed then to have a power which was lost by the process of cooking. Like cooked fruits and vegetables, it lost its freshness. He gave it at first to his patients dressed like the potato, as a salad. They afterwards became partial to it, and overcoming their repugnance to raw flesh and hard frozen, they really often preferred it thus.

It is in this condition the natives mostly take their food, and from them the Doctor received the idea, to which he believed the ship's company owed its salvation. They had no vegetable food, and a strictly animal diet, in that region, seemed to furnish all the requisites of perfect health.

By request of Dr. Kinkaid, Dr. Hayes gave his experience with frost bite, and how he had derived valuable aid from the practice of the Esquimaux. He would relate a case falling under his notice. An Esquimaux had his leg frozen above the knee, stiff, colorless, and, to all appearance, lifeless. He was placed in a snow-house at a temperature of 20° below zero. The parts were bathed with ice cold water for about two hours, then enveloped in furs for three or four hours. Then frictions were used, first with the feathery side of a bird skin, then with snow, alternately wrapping the limb in furs, and rubbing it for nearly twenty-four hours. It was then carefully wrapped up, and the temperature of the snow house elevated, by lamps, above zero. On the third day the patient was taken to his house (where they have often a temperature of 70 or 80°), and in seventy hours he was walking about with only a slight frost-bite on one of his toes.

This treatment the Doctor thought highly philosophical, and he

profited greatly by it in his own practice with frost-bitten limbs. The point being to keep away all extreme heat, and allow the vital powers of the system to do their work. By exposing a frozen part to a warm temperature, the skin becomes thawed out, and dies before the circulation can work itself through the underlying frozen tissue.—*Transactions of the Ohio Medical Society.*

The Yellow Jessamine (Gelseminum Sempervirens) in Gonorrhœa. By Dr. JOHN DOUGLASS.

About thirty years ago, I was called on, in my office, by a young man who had been suffering several months with improperly treated gonorrhœa. One of my pupils begged me to give the case to him, observing that he could cure the most obstinate case in a few days with the root of Yellow Jessamine. A small handful of the root was put into a common junk-bottle of whiskey, and the patient ordered, in a day or two, to take a table-spoonful of this tincture night and morning. He took but a few doses before he became much alarmed, and called on me, stating that the medicine had destroyed his vision. The symptoms he described correspond precisely with those mentioned by Dr. Mayes. Every symptom of gonorrhœa had disappeared, and the cure was permanent. Since that time I have treated many cases of the same character in a similar manner, with uniform and speedy success.

My experience with the medicine is not sufficient to determine whether it is absolutely necessary that the patient should be fully narcotized, but such was the condition in every case which I treated. I have no doubt but a more protracted use in smaller doses would answer the purpose.—*Charleston Medical Journal.*

The Brompton Consumption Hospital.—The anniversary dinner of this Institution was given on Wednesday, at Willis's Rooms, St. James's. Lord Stanley, M.P., was in the chair. The chairman gave the toast, "Prosperity to the Brompton Hospital." In proposing this toast the noble lord stated that of 45,000 deaths which occurred yearly in the metropolitan districts, 5,600 were caused by consumption; thus, excluding infantile mortality, about one-fifth of the deaths arose from this disease. Since the establishment of this hospital it had relieved 5,586 in-patients and 36,030 out-patients; its income had in one year amounted to £19,000, but had averaged between £7,000 and £8,000. During the evening, subscriptions were announced amounting to upwards of £1,000, the noble chairman giving twenty guineas, and the Earl of Derby thirty guineas.

The Statue of Bichat.—A statue in cast metal, by the late David (d'Angers), has just been completed, and will be placed in the court-yard of the School of Medicine of Paris. This beautiful work of art had been ordered by the committee appointed in 1845, by the Great Medical Congress, and has been presented to the Faculty by the committee.

CORRESPONDENCE.

On the Introduction of the Sponge-armed Probang into the Larynx and Trachea.

To the Editors of the American Medical Monthly:

There appeared, a few days ago, in the *New York Daily Times*, a letter over the signature of "Malakoff," the Paris correspondent of that paper, which among other things contained the following declaration:

"A few days ago, Dr. Trousseau, while lecturing on an operation of tracheotomy (his two hundred and fifth operation of the same kind!) for the relief of croup, referred to the operation of Dr. Green, and spoke in the following words in regard to that operation:

"The learned professor denied that *anybody, anywhere*, ever introduced, after Dr. Green's method, the sponge-probang into the larynx. 'A student of Dr. Green's,' said M. Trousseau, 'who was here two years ago, a gentleman who professed to understand perfectly Dr. Green's method, who had himself practiced the operation under Dr. Green's eyes, attempted to perform the operation here, in this hospital, at my request. He failed entirely; his probang arrived on the opening into the larynx, was pressed there, and then passed on into the œsophagus (the canal leading into the stomach). I convinced him of the fact. I have tried this operation very often,' continued M. Trousseau, 'after the directions of Dr. Green's Treatise on the subject. I had tried it long before the appearance of that Treatise, both on the living and on the dead subject. I have put all the good will possible into my experiments, and I have never been able to succeed. More than this, I have convinced myself that the operation after this method IS IMPOSSIBLE, and that it has *never been accomplished by Dr. Green, or any one else.*'"

The writer furthermore avers that "the words of Trousseau quoted above, are the declarations of the profession of France thrown out to the Faculty of New York, and that Dr. Green himself, and the Faculty of New York as well, owe it to themselves, after this speech of M. Trousseau, to endeavor to put this dispute once for all at rest. Either Dr. Green ought to be discarded from the profession and from his high position, or he ought to be declared *and proved* to be entitled to the honor of this important discovery."

This, then, is the *issue*, put in strong and emphatic language, on the question of the practicability or the impracticability of the ope-

ration! Admitting these to be the words of M. Trousseau, and the above negative opinions those of himself and of his confrères, then myself and my colleagues take the affirmative—*we accept the issue.*

But before we proceed any further, I must protest against the apparent effort on the part of "Malakoff" (who, from his language employed, appears to be a medical man), to make this matter of opinions only, a question of *veracity.*

Dr. Trousseau I have the honor to claim as a professional friend. At our interviews in Paris, we have exchanged opinions freely, but in the kindest manner. He has sent patients to my care in New York, and I have frequently advised them to his. When Prof. Trousseau and his distinguished colleagues affirm that the introduction of the sponge-armed probang into the larynx is impossible, they believe what they affirm; they are only simply *mistaken in this opinion.* For myself and my friends I claim the same consideration. Unfortunately, perhaps, opinions in medicine, even among the most distinguished of its professors, have occasionally been found directly at variance, and the writer in the *Times* should remember, in the history of medicine, that every discovery and all new doctrines advanced, have at first always met with opposition. When Harvey published his work on the circulation of the blood, "his views," say the historians of those times, "were at first rejected almost universally." The older intellects in possession of the seats and places of authority, regarded them as idle dreams. Joannes Riolanus, then the distinguished professor of Anatomy in the University of Paris, publicly assailed them; as did Hofman, the learned and laborious professor of Nuremburg, whom Harvey visited in vain, for the sake of demonstrating the truth of his discovery. And Jenner's discovery, likewise, met with no less formidable opposition than did that of Harvey. Paré, too, who first applied ligatures to arteries after amputation, was ridiculed by the French Faculty of Medicine, for "hanging life on a thread, when boiling pitch had stood the test of centuries."* So it has been in this country, as in Europe, in regard to every new medical doctrine. *Facts*, therefore, when established, must be received rather than *opinions* in medicine, however exalted the source from whence these emanate.

The ground and origin of the present controversy are briefly these: the air-passages are lined by a mucous membrane, similar in its nature

* See Willis' "Life of Harvey," and Art. VIII., "Medical Despotism," in *Westminster Review*, Vol. LXV.

to mucous membranes of other parts of the system, and liable to the same diseases—inflammation, ulceration, hypertrophy, etc.

In the treatment of many of the diseases of the mucous membrane, it has long been known to the profession that the topical or direct application of nitrate of silver to the affected parts, constitutes one of the most valuable measures that can be employed. Consequently, attempts were early made by such men as MM. Brettonneau and Trousseau, of France, and Sir Charles Bell and others in England, to reach directly, with this remedy, the mucous lining of the air-passages, whenever this membrane became affected by any of those serious diseases to which, as a mucous surface, it is liable; it being well known that the same topical remedy, if it can be employed, is equally appropriate to the membrane of these passages, when diseased, as to that of any others.

"As early as the year 1818," writes Prof. Trousseau, in a letter which I received from him two years since, "M. Brettonneau carried over the aryteno-epiglottic ligaments, several times a day, a sponge fastened to the extremity of a piece of whalebone, and charged either with pure chlorohydric acid, or with a saturated solution of nitrate of silver. He expressed (the fluid from) the sponge, at the entrance to the larynx, and the patient, in the convulsive movements of respiration, caused a certain quantity of the caustic solution to enter therein.

"When he performed the operation of tracheotomy, in the last stage of croup, he carried with a small sponge a caustic solution into the trachea, and into the larynx, and penetrated into the trachea by the wound which he had made."

In 1830, M. Trousseau repeated the experiments of Brettonneau, in Paris, on a large scale, and treated with great success many cases of chronic diseases of the larynx, and croup also, by caustic applications made to the superior portion of the organ, with the sponge-probang, and by expressing the solution into the cavity of the larynx, but without attempting, as he states, "the direct introduction of the sponge, saturated with a caustic solution, into the larynx." *

Successful as this practice had been—and it is well known to the profession, that practical medicine was greatly advanced by the labors of M. Trousseau, in this field—yet it was found, that when chronic inflammation, or ulceration had extended itself into the

* See the entire letter of Prof. Trousseau, in AMERICAN MEDICAL MONTHLY for January, 1855.

larynx, or trachea, the disease was not so certainly reached by applications to the opening of those passages only. Hence attempts were frequently made to introduce the remedy still deeper into these cavities.

In 1838, I returned to New York from Europe, where I had been to obtain, in the hospitals and schools, all the information I could, more especially, with regard to the treatment of diseases of the air-passages. Soon after my return, a strongly marked case of chronic laryngitis, or laryngeal phthisis, attended with ulcerations of the epiglottis and of the larynx and trachea, came under my care. The patient was much emaciated, had severe cough, with expectoration of purulent matter. In the same manner as practiced by Brettonneau and Trousseau, I made applications of a solution of the crystals of nitrate of silver to the ulcerated epiglottis and to the opening of the glottis. The ulcerations of the epiglottis were healed; but the cough, and the expectoration of purulent matter from the larynx and trachea continued; and the patient was evidently sinking under the local disease. I proposed to reach the ulcerations in the larynx and trachea, and had received the consent of the patient to perform tracheotomy for this purpose. In making repeated applications of the caustic solution to the opening of the glottis, I observed that the acute organic sensibility, peculiar to the glottis, which is limited to the narrow zone of mucous membrane that covers the supra-glottic space,—became daily more tolerant to the applications, and I determined to make the attempt to pass this point, and push the medicated sponge into the larynx. *The attempt was made, and was successful;* the instrument passed between the vocal chords, and entered the trachea. A spasmodic cough for a few minutes followed the operation. But the patient subsequently expressed himself greatly relieved. The operations were repeated daily, for a week or more, proving less and less irritative each time;—then, every second or third day, for several successive weeks. The patient improved rapidly after the introduction of the sponge-probang into the larynx, and ultimately, quite recovered. He is alive at this day. During the following year, many other similar cases were treated after this manner, with the like success, for it was found that by properly preparing the parts—by repeated applications of the nitrate of silver solution, first to the fauces and pharynx, and then to the epiglottis and glottic opening; in some cases for many successive days—to the supra-glottic-space—that the acute sensibility of this part, could be greatly diminished, and thus be made to tolerate the passage of the instrument.

In September, 1840, I brought before the New York Medical and Surgical Society, the subject of the treatment of disease of the larynx, by means of the direct application of therapeutical agents, to the lining membrane of this cavity, exhibiting to the Society the instruments by means of which the topical remedies were applied; and reported fifteen cases of severs laryngeal and bronchial disease, in which permanent cures had been effected by this mode of treatment. Since that time, during a period of nearly eighteen years, I have been almost constantly employed in the treatment of that class of diseases in which topical medication has been conjoined with general remedies; and during that period I have introduced the sponge-armed-probang into the larynges and trachea of my patients, many hundred times every year. Within the past ten years, nearly five hundred physicians have been treated by topical medication, for diseases of the air-passages, and more than half this number have in the most positive manner declared their conviction that the instrument was passed below the vocal chords, into the larynx. Many eminent physicians, since this controversy commenced, have volunteered their testimony on this point.

I shall now proceed to give a series of proofs that cannot be set aside, to establish most conclusively the positive performance of this operation.

In 1854 I saw Professor Erichsen's valuable work, "The Science and Art of Surgery," published in London in 1853. In his work, this distinguished surgeon takes up the question, and declares it to be in his opinion "utterly impossible to pass a whalebone, whether curved or straight, armed with a sponge, beyond, or even between the two vocal chords." Mr. Erichsen has frequently endeavored to do this, in cases of cut-throat, "but in no one instance," says he, "have I succeeded in passing the sponge so as to made it appear at the external wound." After seeing this statement, and having learned also, about the same time, that Professor Trousseau had, at the Hotel Dieu, in the presence of several medical gentlemen, expressed his conviction that the passage of a sponge-armed-probang into the larynx, cannot be effected, I determined to institute a series of experiments that should prove unanswerably its positive performance; although, during all these years in which I had employed topical medication, I had never for a moment doubted its practicability. As in the investigation of this subject, almost every experiment which could in any way establish the affirmative of the question, has, in one way or another, been instituted by myself or my friends, I will, in as brief a manner as possible, particularize a few of them.

1. In the presence of medical men, I have repeatedly performed the following :—Selecting some person from among my patients, who was well prepared by previous operations, I have introduced a sponge-probang into the larynx, and letting go the handle for a moment, have quickly passed a second probang up and down the œsophagus, passing the former without disturbing it in the least degree. This any one may prove, cannot be done when both instruments are in the œsophagus.

2. In cases where stricture of the œsophagus has been present, through which the sponge-probang *could not be passed*, I have repeatedly, in the presence of surgeons—who had previously pushed the sponge-probang as far down the œsophagus as it could be carried—introduced the same instrument into the trachea four or five inches *below the stricture.*

In the presence of many physicians and surgeons—among them Dr. Sims, Professor E. H. Parker, Dr. Sayre, and my colleagues, Professors Barker, Davis, and Peaslee, of New York ; Dr. Bowditch, of Boston ; Professor Davis, of the University of Virginia ; Crowcour, of New Orleans ; Smith, formerly Surgeon in the Army of Mexico ; and others, whose names I cannot recall (all of whom will testify to their having seen some one or more of the experiments)—the following experiments were performed :

3. To the extremity of a flexible tube, of the size of Nos. 11 or 12, catheter, was attached a sponge of the same dimensions with those which are used with the ordinary throat-probang, but in such a manner as to preserve the opening in the side and near the end of tube, free. Wetting the sponge in a strong solution of nitrate of silver, and selecting a patient who had been some weeks under treatment for disease of the windpipe, into whose larynx and trachea I had introduced many times (as I believed) the sponge-armed-probang ; I passed this instrument, in the presence of several of these gentlemen, down to the vocal chords, through the rima-glottidis, and several inches into the trachea ; then withdrawing the wire from the tube, the patient was directed to close his lips, and breathe through the tube. This he did for several moments, filling and emptying the chest of air repeatedly. A lighted lamp was then extinguished several times *by blowing through the tube.*

4. Into the trachea of another patient, the organic sensibility of whose glottis had been reduced by repeated applications, the sponge-armed tube was introduced in the same manner, and then one of the physicians present closed completely the anterior nares, and compel-

led the patient to breathe only through the tube. This he did for several minutes, respiration being performed freely through the inserted tube. With regard to this case, Dr. Sayre, an eminent surgeon of this city, thus testified before the Academy of Medicine, when the discussion on this subject took place, with that body, some time ago: "The instrument was introduced," said Dr. Sayre, "without producing any of the alarming symptoms stated in the majority report." Dr. Sayre then closed the mouth and held the nostrils shut, so that no air could, in any manner, enter the lungs except through the tube. "I was determined," said he, "to test this case thoroughly. The patient breathed thus for several minutes. He then showed signs of suffocation, and Dr. Sayre was on the point of opening his nose and mouth, but Dr. Green said that the trouble arose from the tube being stopped with mucus. Dr. Sayre then blew forcibly into the tube—the patient was instantly relieved, and remained a considerable time longer in that condition, breathing, without trouble, through the catheter."*

The above experiment was repeated subsequently, over and over again, always with similar results; and in each instance in the presence of several medical men; care being always taken (and this has been insisted upon, from the beginning of this treatment,) that the glottis be thoroughly prepared, before the attempt was made to introduce the instrument below the vocal chords. But we have testimony still more positive to prove the affirmative of the question.

5. Soon after the discussion in the New York Academy commenced, to which "Malakoff" refers, my colleague, Prof. Carnochan, called on me, and stated that there was then "in his office a patient who a twlevemonth before, in a fit of insanity, attempted suicide by cutting his throat; the wound had never perfectly healed, and that this case would afford me an opportunity of demonstrating positively, that the disputed operation can be performed, as a small permanent opening into the trachea still remained. Taking with me an ordinary sponge-probang, such as I am accustomed to use daily, in the treatment of my patients, I accompanied Dr. Carnochan to his rooms, and in his presence, at the second attempt, and without much difficulty, I introduced this instrument through the rima-glottidis into the larynx, until the sponge made its appearance and was seen by Prof. Carnochan, *at the opening in the trachea.*

6. I have had recently under my care a young woman, upon whom

* American Medical Monthly, August, 1855.

the operation of tracheotomy was performed several years ago. An opening into the trachea, just above the top of the sternum, has remained ever since. But the opening being quite small, and passing obliquely into the trachea, it is impossible to see into this tube. This patient was under my care for chronic pharyngo-laryngeal inflammation, for which she was successfully treated by topical medication.

As this appeared to be an excellent case to prove the practicability of the operation in question, for the patient breathed much of the time through the larynx, I determined to make the attempt to pass the sponge-probang through the trachea to the opening. To prove its presence at this point (for it could not be seen through the small oblique opening), my assistant, Dr. Richards, bent a small wire of German silver, and passing the bent wire into the opening, sufficient to have it just penetrate into the trachea, retained it there, while I passed the sponge-probang, wet with the nitrate of silver solution, quickly down the trachea upon the bent wire. The meeting of the sponge with the wire was plainly felt, and on withdrawing the latter, it was blackened by its contact with the caustic. This operation was repeated a number of times, in the presence of several physicians, and with the same result.

It would seem as if the above experiments were sufficient to prove to any candid member of the profession, that the introduction of the sponge-probang into the larynx *is possible.* But I shall take the liberty of appending to my own, the direct testimony of a few distinguished members of the profession, who have repeatedly performed this operation themselves, or into whose own larynges the sponge-probang has been introduced, and then submit to the profession, in France and America, whether as M. Trousseau affirms, the operation "IS IMPOSSIBLE, and that *it has never been accomplished by Dr. Green or any one else?*"

Dr. Conant, one of the most accomplished anatomists of this city, and Professor of Surgery in the University of Vermont, testifies as follows :

DR. GREEN :—*My Dear Sir,*—In 1854, soon after Prof. Erichsen's work was published, I was appointed physician in the Mott Street Cholera Hospital ; and as, at that time, the question, of the practicability of introducing the sponge-probang into the larynx, was much agitated, I made many experiments upon the cadaver. In more than one hundred cases, I succeeded in passing the sponge-pro-

bang into the trachea; in more than fifty of these cases, I performed tracheotomy, and in every instance found the sponge in the trachea. Many of these operations were witnessed by members of the profession in this city. I have also operated many times since, before my classes in the dissecting room, and before the public classes in the University of Vermont, and always with the same result. Never, in any of the operations I have performed, have I experienced the difficulty spoken of by Prof. Erichsen; nor have I, in a single instance, found the probang distorted into those "extraordinary curves" which he has represented in the article on this subject, published in the *London Lancet* for December, 1855. The operation on the cadaver is so perfectly easy that students are as readily taught its performance as the introduction of the catheter into the bladder. Upon the living, the operation is more difficult, but perfectly practicable. I have seen Prof. Carnochan pass the sponge-armed-probang down to the opening made in the trachea of a cut-throat. By the kindness of Dr. Turner, of the Kings County Hospital, I had an opportunity, on the 22d instant, to try the operation upon an adult, and also upon a young child, in both of whom tracheotomy had been performed, and was successful in both cases, in passing the sponge-probang into the trachea.

Yours truly, D. S. CONANT.

From Dr. Barker, Professor of Midwifery in the New York Medical College.

My Dear Doctor,—In reply to your note, I am most happy to say that I have had conclusive evidence that the sponge-probang has been passed through the larynx into the trachea in repeated instances:

1st. In a patient of Dr. Carnochan's, who, in a fit of delirium, during illness, had attempted to commit suicide by cutting his throat, there remained a permanent opening into the trachea. I saw Dr. Carnochan pass the sponge-probang down through the larynx until the sponge made its appearance at the opening of the trachea.

2d. In another patient that I saw at your office, there was a stricture of the œsophagus from malignant disease, about four inches below the pharynx, through which a tube could not be passed; yet I saw you, in the presence of several other medical men, pass the sponge-probang down at least ten inches.

3d. In some few patients of my own, I have distinctly seen and felt the sponge externally about an inch above the sternum. When

passed down the œsophagus, it can neither be seen nor felt externally.

4th. I have heard intelligent patients, many of them medical men, and able to determine the point by their own sensations, *affirm* the passage of the sponge into the trachea. I see no reason for discrediting their statements.

5th. I regard the *positive* testimony of such men as Prof. Bennett and Dr. Scott, of Edinburgh, Dr. Watson, of Glasgow, Dr. Cotton, at the Hospital for Consumption at Brompton, Dr. Hastings, of London, and many others, distinguished in this department of practical medicine, that they have, in numerous instances, performed this operation, as far outweighing any amount of *negative* testimony, from "anybody anywhere." *Negative testimony*, under these circumstances, is simply a confession of individual incompetency and inability.

6th. That there is no anatomical impossibility in passing the sponge through the larynx into the trachea, is proved from the fact that the operation can be easily, and has been repeatedly, demonstrated on the cadaver. Very sincerely yours,

FORDYCE BARKER.

70 UNION PLACE, July 25, 1857.

45 LAFAYETTE PLACE, July 29th, 1857.

My Dear Sir,—As the possibility of passing the tracheal probang, armed with the sponge, has been recently discussed, I beg leave to contribute the following observation, which in connection with your exposition of the entire question, is sufficient to convince me that the operation can be performed.

About ten months ago I was waited upon by a young man, who had attempted self-destruction by cutting his throat. The line of the incision when seen by me, about twelve months after the attempt, extended across the anterior portion of the throat, and the trachea had been divided through three-fourths of its calibre, immediately below the cricoid cartilage. The patient used a tracheal tube through the aperture made by the wound, and thus performed the function of respiration with great ease. Nevertheless, he was very desirous of having the aperture closed, and of getting rid of the use of the tube.

Upon withdrawing the tube, and closing, for the moment, the aperture in the trachea, respiration became exceedingly difficult, owing to the falling forward of the larynx, and to a partial contraction of the respiratory tube above the wound. This, of course, deterred me from performing any autoplastic operation, for the purpose of closing the

aperture. Proceeding, however, to try and effect a dilatation of the interior of the larynx, I began by passing flexible bougies through the aperture, from below upwards into the larynx

The first trials were attended with violent spasmodic action, during which the patient seemed threatened with asphyxia. After a time, however, the paroxysms ceased to manifest themselves, and the patient became enabled to pass the bougies with his own unaided hand, so that the beak could be seen in the cavity of the mouth.

Seeing the feasibility of passing an instrument from below upwards through the rima-glottidis, I was induced to make the experiment of passing the sponge-probang in the contrary direction, by the mouth, from above downwards, and succeeded in doing so, the sponge presenting itself at the aperture in the trachea. Subsequently, at my request, and in my presence, you performed the same operation upon the same patient, using a probang with a sponge measuring between five and six lines in diameter when expanded.

To conclude, it is my opinion that the muscles called constrictors of the larynx, were not in any way paralyzed.

I am, dear Sir, with much respect, very truly yours,

J. M. CARNOCHAN.

Prof. HORACE GREEN.

We do not deny the difficulties which attend the operation for the direct medication of the air-passages, or rather those which are met with in preparing our patients for its employment. These, however, in most cases, may be overcome ; and happily, in the treatment of several mortal diseases—as membranous croup and œdema glottidis—these preparatory measures are not necessary.

I have in my possession the written testimony of a large number of intelligent physicians, from different parts of the United States, who have been under my care for the treatment of laryngeal, or bronchial disease, who affirm, in the most positive manner, that they have had, in their own cases, *the sponge-armed-probang introduced repeatedly into the trachea.*

But this testimony I must omit for the present, and shall close this long communication by a reference to an opinion expressed by Prof. Trousseau himself, in his writings in 1837, and to an interesting fact in the history of medicine. "The entire generation of medical men," say MM. Trousseau and Pidoux, in their System of Medicine, "turns its back on truth, and will have to march perhaps for some time yet in error, until they shall fall by its own consequences."

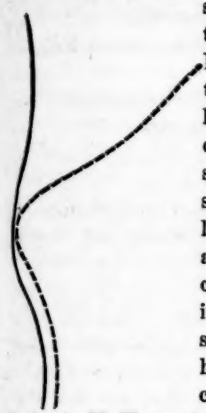
The historical fact to be remembered is this, that the immortal Harvey himself opposed to the last, Aselli's important discovery of the lacteals and lymphatics, vessels which are absolutely necessary to complete his own theory! HORACE GREEN.

EDITORIAL AND MISCELLANEOUS.

—The health of the city continues to be very good. The number of deaths is below the average, and there is no general epidemic. In some portions of the city measles prevail to a considerable extent, not in a very grave form. The warm weather of the last fortnight has begun to produce its effect on infants, and diarrhœas become more prevalent. As yet, this disease has not prevailed to its ordinary degree. Thanks to the exertions of the City Inspector, the streets are in better condition than usual, and this although two months since they were more filthy than ever before. We trust his new broom will continue to sweep clean. Of yellow fever we have none, although some cases of it have arrived at quarantine. Small-pox too, has been imported there, and people in the inland towns and cities may thank the strictness of New York laws that this infection has not been spread among them profusely.

—The treatment of deformities has been frequently spoken of in our pages as being remarkably successful in the hands and by the method of Dr. H. G. Davis of this city. Speaking from our own observation, we are somewhat decided in our opinion, but can still appreciate the doubts expressed by many professional friends, as to the possibility of accomplishing so much by apparatus. Two cases have lately been under treatment, one of which we saw, and both of which have been remarkably successful. So striking are they that we give a short sketch of them, and cuts showing the change in the curvature of the spinal column as measured over the spinous processes. These cases, were there no others, would be sufficient to prove the erroneousness of the common opinion that it is dangerous to straighten patients in advanced stages of Pott's disease. It may be worth while to repeat that the mechanical treatment is only an auxiliary to hygienic and constitutional treatment. That the appliances do not interfere with the taking of exercise and constant exposure to the pure air is not their least recommendation. The first case is that of Wilbur Fisk Wood, son of Samuel S. Wood, of Roch-

ester, N. Y. The disease, which was in the dorsal vertebræ, was of four years standing, and deformity has been noticeable for *three* years. He has been very restless at night, crying out in his sleep, and presented the usual symptoms of Pott's disease in this region. Has been treated by Dr. Willard Parker, and Dr. Livingston. The father states that under their treatment his general health had improved, but the deformity steadily increased. His height was 43 inches, and he stood with one hand on the knee. The cut shows the change in twenty days,—the dotted line showing the curvature before Dr. Davis's apparatus was applied; the continuous line the curvature after it had been worn 20 days. The increase in his height was five inches. He now stands erect, his general health is improved, and he is gaining in flesh and strength. The second case was that of Richard Graves, Jr., of Kinderhook, N. Y., aged 15 years. He has had Pott's disease of the lumbar vertebræ for *three* years. It has been attended by partial paralysis of the lower extremities. He walked with difficulty around the house, and had the expression of one suffering. He has worn apparatus applied by Dr. March, of Albany, though not with the expectation of remedying the deformity. The cut shows the change in curvature after four weeks treatment, the dotted line being, as before, the original deformity. The paralysis has disappeared, and the patient walks and rides without difficulty. He has gained in flesh, and his appetite is excellent, as is ordinarily the case in Mr. Davis' experience. This apparatus appears to us to be the *only* one yet devised which corrects the deformity in Pott's disease, does not confine the chest, and still permits the patient to exercise freely.



—Yellow fever has made its appearance in Philadelphia, two cases being reported as fatal previous to the 28th of July. They were both from vessels just arrived, and were sick before reaching that port. It is a singular coincidence that one of them should have been in the same neighborhood in which the earliest cases occurred, in 1853. If vessels are allowed to pass the quarantine station of

that port with persons on board so sick as to die of yellow fever in three or four days after landing, there will be need of something more than the performance of such farces as was the late quarantine *convention*, so-called, to preserve the health of that city.

— The following account of the recent improvements at Bellevue Hospital, we take from the *Times* :—

Extensive improvements are making at Bellevue Hospital. An additional story is adding to the main building and to each of the wings. When completed, the central building will be four stories high, with a capacious basement. The wings will be each three stories high, not including the basement. The cupola on the main building, from which an extended view of Long Island Sound and the adjacent country may be obtained, is to be moved back so as to surmount the Westerly part of the edifice. Where it now stands a large glass dome will be erected, through which daylight will be admitted into a new and commodious apartment that is to occupy the entire fourth story. This chamber will be used for a lecture-room and operating theatre. It will accommodate 600 persons. Here the dissections will take place before the students of medicine who are admitted to attend them. There is nothing like this operating theatre in the United States. In the basement of the main building will be the large kitchen, (besides which there are kitchens for special cooking in each of the wings) the store-rooms and pantries, &c. In this building, also, will be located the apartments of the apothecary of the Hospital, and the orderly man, his assistant, the office for the reception of patients newly arrived at the Hospital, the offices of the Warden and other officers of the institution, the house staff of physicians, and the dwelling apartments of the Warden and resident physicians.

In the wings will be the apartments set apart for the patients. The males will occupy the North wing, which is divided into twenty-four wards, each under the care of a separate male nurse, with a female assistant. The nurses in the Hospital receive $12 per month and their board as a compensation for their services. The assistant nurses receive $5 per month and their board. The female patients will occupy the South wing, which is divided into sixteen wards, each attended by a female nurse and assistant. At present both males and females occupy the North wing, and will continue to do so until the enlargements are completed.

The entire length of Bellevue Hospital, if the building were extended in a straight line, would be 700 feet, and its depth 50 feet. But its shape, as it now stands, is like that of the letter H, with the top of the right leg taken away. The building stands in the midst of a plot of ground containing five acres of land, bounded by Twenty-eighth and Twenty-sixth streets on the North and South respectively, by First Avenue on the West, and extending to the river on the East. The North wing extends nearly the whole distance from First Avenue to the East River. The main building extends mid-

way between the avenue and the water between the two wings ; the South wing extends from the line of the main building back to First Avenue. When a further enlargement of the Hospital accommodations is called for, it is the intention to extend the South wing to the river, thus completing the rectilinear equilibrium of the whole. But this addition will probably not be needed for ten or twelve years to come. There will be Hospital accommodations at Bellevue for 1,200 patients when the present alterations are completed. A portion of the North wing was added last Winter, and at present 600 patients can be accommodated in the institution.

All the modern improvements are being introduced into the Hospital. There will be water-closets and bath-rooms, with hot and cold water, in each ward, ventilating apparatus and gas. Coils of pipe have been placed under the roofs, and the walls perforated on every floor, and in the Winter time the entire establishment will be heated with steam. Iron verandahs, supported by iron pillars, extend in front of every story on the Southern and Eastern (the coolest) sides of the Hospital. The verandahs are connected by iron stair-cases, so that one can descend from the highest story to the ground by this outside arrangement. In case of fire this mode of egress would be open to those in the upper stories when it was impossible to descend inside. On these verandahs, too, the invalids may sit in warm weather in the shade, and enjoy the breeze from the water. The grade of the ground is to be raised nearly three feet, so as to make it even with the base-line of the buildings. The plot of ground between the edifice and the water will be laid out into a lawn and vegetable garden, which convalescent patients will be set to work to beautify and cultivate. At the South side of these grounds a dead-house was erected last year, to which all the out-door poor are sent. It is a brick building, two stories high, and $3,000 were expended in its erection. The upper story is occupied as a Pathological Museum and Lecture Room.

That portion of the North wing, which was recently erected, cost $60,000. The expense of the enlargement and improvement now in progress will be $100,000. The Hospital part of the enlargement will be completed in August, the dwelling parts will not be ready for occupation until November. Meantime the usual routine at the Hospital is not interrupted. There are as many patients there as is usual at this season of the year. The Surgeons hold their practical cliniques twice a week, on Wednesdays and Saturdays, and Professor Metcalf lectures every Tuesday and Thursday. The House Staff is composed of twelve physicians, who serve for one year, and are appointed semi-annually, six in April and six in October. Candidates for these appointments are examined by the Medical Board, by whom they are nominated to the appointing power, the Board of Ten Governors.

Removal of the Nauseous Taste of Cod Liver Oil.—We find in the *Répertoire de Pharmacie*, that M. Leperdriel advises, to conceal

the disagreeable taste of cod-liver oil, by the addition to the latter of about ten per cent. of common salt. Not only does the salt render the oil palatable, but it causes the stomach to digest the oil more completely. All the fish oils may be masked in the same manner.

Method of Promptly Relieving Facial and Dental Neuralgias.—This method consists in turning into the meatus auditorius from four to ten drops (according to the age and sensibility of the patient) of the following fluid; then to close the opening of the ear by means of a little cotton, and to cause the patient to hold the head inclined for some minutes to the side opposite to the seat of the pain, so that the liquid may remain in the bottom of the ear. This preparation is thus made: R Take of the extracts of opium, of belladonna, and of stramonium, each *one part;* of distilled cherry laurel water, *twelve parts.* Dissolve and filter.

Although this preparation may be only extemporaneous, it may nevertheless be preserved if care is taken to keep it cool, and to pour on its surface from two to four drops of sweet almond oil.

It is very rare that with the use of this liquid relief is not obtained in a few minutes; indeed, the patient is almost always asleep in half an hour, whatever may have been the severity of the pains, and that without having been in the least danger.

Absorption takes place almost as rapidly as from a denuded surface, and it is therefore unnecessary to blister the patient when we wish to use narcotics, since they act almost as rapidly by the auditory passage.

If it should happen that, at the end of eight or ten minutes, the pain does not yield to the remedy (which sometimes happens when the quanity used has been too small, or when we have to treat a neuralgia which has already required the use of narcotics in any way), it is necessary then to use a second dose, at least equal to the first, but in the opposite ear, in order to obtain promptly that relief which is only too frequently momentary in facial neuralgias of long standing.

The preference which I give to this aqueous solution over those which contain alcohol, such as laudanum and other narcotic tinctures, arises from having used both upon myself for several years for a facial neuralgia, and observing that the latter produce a sensation of quite acute pain at the moment of their use, and not being always as successful as the former, which causes neither heat nor smarting, and is more certain in its effects.—MICHEL ANDRE, in the *Revue de Thérapeutique.*